



**MINUTES OF THE 16TH SOUTHERN AFRICAN AND ISLANDS
HYDROGRAPHIC COMMISSION (SAIHC) CONFERENCE
Cape Town, South Africa
3-5 September 2019**

1. OFFICIAL OPENING SESSION

The formal opening of the 16th Southern African and Islands Hydrographic Commission (SAIHC) Conference took place on Tuesday 3rd September 2019. The SAIHC Conference was preceded by a one-day Seminar on National Obligations for the Provision of Safety of Navigation, on Monday 2nd September 2019. The report for the Seminar on National Obligations for the Provision of Safety of Navigation, is available on the IHO website, along with the Seminar presentations.

1.1. Opening Remarks and welcome from Chair

Rear Admiral Tim Lowe OBE, Chair of SAIHC, started proceedings by affirming what a great pleasure it was to Chair SAIHC for the third time, assisted by Su Marks, SAIHC Secretariat, and mentioned the SAIHC Letters in progressing SAIHC forward throughout the year. He thanked South Africa, Captain Theo Stokes, along with Ms Ruth Farre and team, for stepping in at short notice to host SAIHC16, and UK for the Icebreaker reception held the previous evening.

The Chair noted that we sit in interesting times with the dawn of the United Nations Decade of Ocean Science for Sustainable Development (2021 - 2030), and highlighted that hydrography is the keystone for everything that we want to do in the maritime space. He referred to the UN discussion on global warming and climate change and being at the forefront with the science and activities that we deliver.

The Chair raised the importance of meteorology, hydrography and oceanology and bringing these together in support of the mariner and also the wider marine and maritime user. The wider use of data which we supply and make available would be a common theme running through the agenda for SAIHC16.

The Chair reflected on the current hurricane in Florida, MACHC region, and the recent cyclones within the SAIHC region, which bring to life the importance of the Regional Hydrographic Commission work. He emphasised the importance of communication, especially maintaining it as a Commission; he asked that all contribute to the SAIHC16 meeting. He also mentioned the importance of the IHO and highlighted the current membership status for SAIHC (see Annex D - SAIHC Membership Status).

The Chair expressed his delight at the high level of attendance, from Members and Associate Members, Industry, and IALA, IMO, IHO as three delivering as one, and thanked everyone for attending and looked forward to all contributions throughout the meeting. He then thanked the IHO Secretariat for their work with SAIHC and handed over to the IHO Director, Abri Kampfner.

1.2. Opening Remarks by IHO Director

The IHO Director stated that it was a great honour to represent the IHO Secretariat at the 16th SAIHC Conference. He confirmed that RHCs are an important element of hydrographic activities, which are established for coordination and cooperation in a specific region. He recognised that the spirit of RHCs are technical, cooperative and collaborative in nature.

The IHO Director added that RHC meetings continue to increase in importance as they exercise an increasingly active role in the overall planning, execution and assessment of the IHO Work Programme, as it relates to their regions and to the development of the IHO Strategic Plan.

The IHO Secretariat actively encourages and supports activities of the RHCs, to coordinate hydrographic and nautical charting services on a regional basis.

The IHO Director confirmed that the IHO depends on the active participation from all Member States, and requested that all SAIHC participants continue to participate, host and also support the IHO meetings and events as much as possible, in particular SAIHC.

The IHO Secretariat is pleased to observe the increasing involvement of hydrographic industry, academia and sister maritime organisations to the RHCs. He highlighted the presentations from Industry in the SAIHC16 agenda, and their willingness to engage with SAIHC to assist the development of hydrographic capability in the region.

The IHO Director extended his thanks to the Government of South Africa, especially Captain Theo Stokes and his team for organizing the event, and all those that had been involved in the detailed preparation of this Conference.

The IHO Director announced that 2019 marked the centenary of the first Hydrographic Conference in 1919 and provided a brief overview of the history of the IHO and the importance of accurate charts and hydrographic information.

The IHO Director noted the robust agenda and highlighted the opportunity to assess the regional situation and identify the key priorities and wished everyone a very successful meeting.

The Chair thanked the IHO Director.

2. ADMINISTRATIVE ARRANGEMENTS AND HOST NATION COMMENTS

Host Nation Comments

The Chair welcomed the Vice-Chair, Captain Theo Stokes, South Africa, to provide his opening comments.

The Vice-Chair began with a warm welcome to all, with the different ways of saying “Greetings” in South Africa. On behalf of Chief of the South African Navy, Vice-Admiral Mosiwa Hlongwane, the Vice-Chair extended a heartfelt welcome to all to Cape Town, South Africa, home of the South African Navy Hydrographic Office (SANHO).

The Vice-Chair provided a brief overview of SANHO, established in 1954. South Africa through SANHO is also the NAVAREA VII Coordinator.

The Vice-Chair highlighted that the South African Government had recognised the importance of maintaining hydrographic services by embarking on a rejuvenation programme to replace the hydrographic capability, this includes a brand new survey vessel, three survey motor boats and upgrading the infrastructure of SANHO.

The Vice-Chair acknowledged the World Hydrography Day theme “Hydrographic information driving marine knowledge” as the IHO recognising the need to move from product-centricity to data-centricity to unlock the Blue Economy and highlighted the changes ahead with S-100; and recommended that Member States become active IHO members.

The Vice-Chair confirmed that South Africa is starting to implement Marine Spatial Planning (MSP) to unlock the Blue Economy.

The Vice-Chair noted the recent disaster in Mozambique as a concern and highlighted the urgent need for closer cooperation and improved communication to enable better coordination of disaster responses.

The Vice-Chair concluded by thanking his staff for co-organising the 16th SAIHC Conference in collaboration with the UK and wished everyone a successful meeting and a pleasant and memorable stay in Cape Town, South Africa.

The Chair thanked the Vice-Chair and reflected on the common theme for SAIHC16 of communication, working together and the Blue Economy.

The Chair highlighted the good attendance (see Annex C - SAIHC16 List of Participants), and our role in working together and sharing experiences to support the mariner and reflected on the success of yesterday's Seminar funded by the IHO CB fund to ensure the level of attendance. Regrettably, a further bid for funding for a Seminar in 2020 remains unsuccessful.

Administrative Arrangements

Ms Ruth Farre provided the administrative arrangements for the SAIHC16 meeting. The Chair thanked Ms Ruth Farre and her team for all their support.

3. APPROVAL OF AGENDA

Doc: SAIHC16-3

The Chair confirmed that the latest version of the Agenda v3.0 had been provided to all participants, and remarked how busy the agenda was, and thanked the high level of input to the agenda. He highlighted the change in the agenda to bring the GEBCO, Seabed 2030 and CSB items forward as these were fundamental in underpinning everything we are trying to do.

The chair then invited any additional comments, inputs or requests for change to the Agenda, with no comments the agenda was approved.

A brief introduction from the SAIHC participants was provided for the benefit of participants not present at the Seminar on National Obligations for the Provision of Safety of Navigation. Congratulations were extended to delegates which had recently taken up new roles.

4. APPROVAL OF 15TH SAIHC MINUTES

Doc: SAIHC16-4

The Chair confirmed that the Minutes of the 15th SAIHC meeting had been distributed, and that all feedback received by the 9th November 2019 had been considered and incorporated into the amended draft of the Minutes available on the IHO website. He relayed the importance of providing feedback within the deadline of one month, as nil response indicates acceptance of the Minutes.

The Chair asked if there were any comments on the draft minutes or any proposed amendments. India raised the overlaps in the Report for the 7th SAIHC ICCWG meeting - Action 4 in Actions arising from the Minutes of 7th ICCWG meeting, paragraph 6 - ENC Overlaps within the Region, and paragraph 7 in the SAIHC Report to WENDWG9. The chair confirmed that this would be covered during the 8th SAIHC ICCWG meeting, India agreed. With no further comments, the Chair confirmed that the Minutes of the 15th SAIHC meeting were approved.

5. REVIEW OF 15TH SAIHC ACTIONS LIST

Doc: SAIHC16-5

The Chair reviewed the Actions from the 15th SAIHC meeting.

New Action items appear in red throughout the relevant Agenda Items, and are consolidated in table form in Annex A - SAIHC Actions and Annex B - ICCWG Actions. Decisions appear in blue throughout the document.

No.	Agenda Item	Action	Action By	Deadline
1	SAIHC14 - 3.4.1	Countries in the SAIHC region to provide capacity building inputs by end of February each year in accordance with capacity building procedures. (Note: Urgent requirements can be forwarded at any time or brought to SAIHC meetings).	SAIHC Member States	Ongoing

The Chair highlighted the importance of submitting bids to the SAIHC CB Coordinator, to ensure that they are reflected in the bids to the Capacity Building Sub-Committee (CBSC). This is vital to looking internally for our region to see how the CB needs could be met from within our regional resources, a good example of this was the distance learning package on MSI from South Africa, with plans to bring in other topics.

Decision 1: Action Ongoing, renumbered to SAIHC16 Action 1 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
2	SAIHC14 - 3.4.4 and 3.4.5	Charting Member States requested to provide coastal bathymetric data and shallow/deep ocean bathymetric data collected to be forwarded by HOs to the IHO Data Centre for Digital Bathymetry (IHO DCDB). Feedback to be provided on progress at next SAIHC Conference.	SAIHC Member States	Ongoing

The Chair confirmed that this would be covered by the GEBCO Seabed 2030 and CSB agenda items and highlighted the importance of the IHO DCDB and making data available beyond charting.

The Chair asked for any comments on progress with this action. UK responded by stating that it releases its available data into the IHO DCDB via the European Marine Observation Data network (EMODnet) and referenced the new ADMIRALTY Marine Data Portal which provides access to marine data sets held by the UK Hydrographic Office within the UK EEZ. Norway also provides its data to the IHO DCDB via EMODnet, and engages with both Government agencies and Industry to more actively gather data during other types of operations and share existing data.

The Chair asked all that were actively collecting and charting in the SAIHC region to provide the SAIHC Secretariat with details of what you are doing, whether you are releasing or not releasing data to the IHO DCDB, in order to get a better understanding for our region.

Decision 2: Action Ongoing, renumbered to SAIHC16 Action 2 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
3	SAIHC14 - 3.4.9	Countries with PCA responsibility to offer assistance to nations preparing for the IMO audit process.	PCA	Ongoing

The Chair confirmed that the IMO audit process was raised at the Seminar and that a number of

states in our region are due for an audit, it was incumbent on Member States with PCA responsibilities to help states prepare for the IMO audit process. There were no comments from Member States about to undergo the process.

UK confirmed that as PCA they had contacted Kenya, Tanzania and Seychelles in the lead up to and after the IMO audit process to request any items in which assistance could be provided.

Decision 3: Action Ongoing, renumbered to SAIHC16 Action 3 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
4	SAIHC14 - 3.4.9	Invite Members which are preparing for or have undertaken the IMO audit process to consider requesting support to meet items that have been raised within the audit, and also to share best practice.	SAIHC Member States	Ongoing

IALA confirmed that they would be pleased to support Coastal States which are preparing for or have undertaken the IMO audit process to meet items that have been raised and also to share best practice, particularly with important Coastal State obligations, such as AtoN or MSI.

Norway highlighted that part of the IMO audit looks at C-55, he commended UK and France for their use of CATZOC for updating C-55 and stressed the importance of keeping C-55 well updated.

Decision 4: Action Ongoing, renumbered to SAIHC16 Action 4 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
5	SAIHC14 - 3.4.13	The members of SAIHC were requested to consider submitting papers for publication in the Review.	SAIHC Member States	Standing Item

The Chair reflected on the sad passing of Mr Ian Halls, IH Review Editor, and confirmed that Mr Alberto Costa Neves, IHO Secretariat had stood in as the Acting Editor, with Captain Brian Connon, USA, now in the role on a permanent basis.

The Chair announced that the new UK SAIHC representative on the IH Review Editorial Board would be Mr Tim Lewis. There were no objections.

The Chair commended Mauritius for their article on “Establishing Hydrographic Services in Mauritius” published in the November 2018 publication. He encouraged all to consider submitting papers to the IH Review, to share experiences and ideas, and mentioned the rebuilding of capacity in South Africa as a future article. South Africa confirmed that this would be considered after delivery.

Decision 5: Action Standing Item, renumbered to SAIHC16 Action 5 in Annex A.

Decision 6: Mr Tim Lewis to replace Rear Admiral Tim Lowe as the SAIHC representative on the IH Review Editorial Board.

No.	Agenda Item	Action	Action By	Deadline
6	SAIHC14 - 3.4.6 and 3.4.14 and ICCWG6 Action 9	SAIHC Member States to provide new information and available survey data, and report changes that may affect safety of navigation in their national waters to INT Chart producer nations, to ensure that their responsibilities as required by SOLAS are met. Where another organisation conducts a survey on behalf of the coastal state, it is important to make the survey data available to the Primary Charting Authority in order to update charts for the area. The modalities of data sharing to be resolved bilaterally.	SAIHC Member States.	Standing Item

The Chair highlighted the importance of this action for the safety of the Mariner, he acknowledged that the data in the SAIHC region is sparse and with the expense involved in gathering data he emphasised the need to avoid duplication of data collection, in making survey data more widely available. He stressed that this was more than just charts, it was about making new data available to unlock our Blue Economy.

UK confirmed that this action had some key links with the SAIHC MSDIWG, and that our MSDI capability may assist us with this action.

Decision 7: Action Ongoing, renumbered to SAIHC16 Action 6 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
7	SAIHC14 - 6.5	All MS and associated PCA to check relevant C-55 data and update as required. All MS to check relevant P-5 entries, informing IHO Secretariat when either/or are complete.	SAIHC Member States and PCA	Ongoing

The Chair highlighted the importance of C-55, which is the foundation data set for understanding the status of survey and activity in any particular waters and that it was in our interest to ensure that this information is as up-to-date as possible. The Chair added that P-5 was key to maintaining communication.

The IHO Director reiterated the importance of C-55 and P-5 and asked that all Member States checked the paper copy of their P-5 entry provided by the SAIHC Secretariat.

Decision 8: Action Ongoing, renumbered to SAIHC16 Action 7 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
8	SAIHC14 - 6.6	Marine Disaster details, action on MS to review and if necessary, update the contact details on the Marine Disaster spreadsheet, and to provide an alternative point of contact (if applicable) informing SAIHC Chair when complete.	SAIHC Member States and SAIHC Chair	31 October 2018

The Chair confirmed that the support provided to Mozambique from France, India, South Africa and Portugal, following the two recent cyclones was a direct result of the Marine Disaster contact details being up-to-date. He urged Member States to check their contact details and if possible, provide an alternative point of contact, reflecting on the cyclone that hit Fiji where there was no alternative point of contact.

Decision 9: Action Ongoing, updated and renumbered to SAIHC16 Action 8 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
9	SAIHC15 - 5 - SAIHC14 Action 14	IH Review Editorial Board to confirm receipt and date of publication for the article submitted on Hydrographic Services in Mauritius.	SAIHC Chair	30 September 2018 *Post meeting note: The Chair contacted the IH Review Editorial Board on the 3 rd October 2018. The IH Review Editorial Board confirmed receipt of the article on Hydrographic Services in Mauritius, which is due for publication in the November 2018 edition.

Decision 10: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
10	SAIHC15 - 5 - SAIHC14 Action 23	IHO Secretariat recommendation on new membership pack to be included on CBSC agenda.	CB Coordinator	September 2018

The CB Coordinator confirmed that this action was briefly discussed at CBSC17, however it was overtaken with issues regarding the CB funding. The Chair recommended closing this action, as it now sits with CBSC.

Decision 11: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
11	SAIHC15 - 7.8	UK to develop regional MSDI TORs, and distribute with Minutes, for endorsement from SAIHC Member States. Membership: All full Members as a minimum and any Associate Members welcome.	UK, MSDI working group: Members and Associate Members	30 September 2018

The Chair confirmed that the MSDI TORs had been created, and that this action would be covered under the SAIHC MSDIWG agenda item. UK thanked France for their help with the TORs, and for the useful feedback from Kenya and Malawi, and agreed that this action could now be closed.

Decision 12: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
12	SAIHC15 - 7.8	Subject to the ToRs for the newly established MSDI working group, the working group to report progress and recommendations for MSDI activity at SAIHC16.	UK/France	SAIHC16

The Chair confirmed that this action would be covered in a dedicated session on MSDI later in the agenda.

Decision 13: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
13	SAIHC15 - 12.2.4	CB Coordinator to develop the CB Strategy and Plan.	CB Coordinator	SAIHC16

The CB Coordinator confirmed that the previous CB Coordinator had prepared the CB Strategy, and as this was her first SAIHC meeting, she would engage with the SAIHC Members to develop the CB Plan during SAIHC16.

Decision 14: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
14	SAIHC15 - 13	SAIHC Chair to invite organisations to SAIHC16 to further develop Blue Economy within the SAIHC region for the hydrographic element.	SAIHC Chair	SAIHC16

The Chair confirmed that he had invited the Nairobi Convention, however they were unable to attend, he asked the SAIHC delegates for assistance by letting the SAIHC Secretariat know of any useful contacts in order to secure organisations to attend SAIHC17 to further develop Blue Economy within the SAIHC region.

The IHO Director commented that the work of the SAIHC MSDIWG would play an important role, as knowledge grows and activities increase in the region, MSP will improve, as would the Blue Economy.

UK referenced the links to MSDI, MSP and Blue Economy activities within the SAIHC region which are available in the SAIHC MSDIWG Annual Report and noted the importance of developing these.

Decision 15: Action Ongoing, updated and renumbered to SAIHC16 Action 9 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
15	SAIHC15 - 14	Angola to provide an update on MSI structure at next SAIHC and send MSI information to both Portugal and South Africa.	Angola	December 2018

The Chair confirmed that although the two delegates from Angola were unable to attend SAIHC16, they had provided the following short update: Angola continue to work on modernising their MSI structure and are sending information to Portugal and South Africa.

South Africa confirmed that communication still remains a large challenge with Angola, with most of the MSI information received from Industry and not the National Coordinator.

Decision 16: Action Ongoing, updated and renumbered to SAIHC16 Action 10 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
16	SAIHC15 - 14	Mozambique requested to improve communication with NAVAREA coordinator.	Mozambique	December 2018

Mozambique agreed that they needed to coordinate the different stakeholders in Mozambique for one person to coordinate and share the information required. South Africa thanked Mozambique for their effort in improving communication and confirmed that they are receiving information which is being actioned as requested. The Chair commended the effort from Mozambique particularly in the light of the recent cyclones.

Decision 17: Action Ongoing, updated and renumbered to SAIHC16 Action 11 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
17	SAIHC15 - 14	Madagascar requested to improve communication with NAVAREA coordinator.	Madagascar	December 2018

Madagascar confirmed that there were problems with contacting the NAVAREA Coordinator which they want to improve, the problem is with a change of format from the paper transmitted information to the coded information. France mentioned that there is a Technical Visit planned in 2020 in Madagascar and that this would be an opportunity to check on this MSI issue. France agreed to take this action forward with Madagascar, as they are leading on this Technical Visit. South Africa confirmed that they had received information from Madagascar.

Decision 18: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
18	SAIHC15 - 14	Comoros requested to improve communication with NAVAREA coordinator.	Comoros	December 2018

Comoros confirmed that they do not have a National Coordinator, and if they have information, they do not know how to send it. South Africa acknowledged that this still remains a challenge. The Chair suggested that during the margins of the meeting Comoros meet with the regional coordinator and France, as PCA, who would offer some ideas and support on how to push the information forward. A Technical Visit is planned for 2020 in Comoros that will also focus on improving MSI practice. The Chair confirmed this action was to remain open while support is provided to help Comoros improve communication.

Decision 19: Action Ongoing, updated and renumbered to SAIHC16 Action 12 in Annex A.

No.	Agenda Item	Action	Action By	Deadline
19	SAIHC15 - 14	SAIHC Members and Associate Members to contact their regional warning coordinator to cancel warning messages when they are no longer applicable.	SAIHC Members and Associate Members	SAIHC16

The Chair proposed that this was normal business and therefore recommended closing this action. South Africa agreed, as they would normally follow up if a message needs to be cancelled or if it is long-running.

Decision 20: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
20	SAIHC15 - 15.3	SAIHC Members and Associate Members to note the recommendations from the IALA presentation and act on them as applicable.	SAIHC Members and Associate Members	SAIHC16

IALA confirmed that there had been no response from this action.

Decision 21: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
21	SAIHC15 - 15.4	All Member States to note the recommendations from the SEaignep presentation and take appropriate actions.	SAIHC Member States	May 2019

The Chair recommended that this action was taken forward to the SEaignep agenda item, to look at how SAIHC can best support the SEaignep initiative.

Decision 22: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
22	SAIHC15 - 16	SAIHC Chair to write to Members and Associate Members with revised version of IHO Resolution 2/1997, when available, requesting formal comments.	SAIHC Chair, Members and Associate Members	November 2018

The Chair confirmed that he had sent out SAIHC Letter No. 6/2018 seeking comments on draft IHO Resolution 2/1997, the SAIHC views were taken forward to IRCC11 in SAIHC Letter No. 7/2018 and would be discussed at C-3.

Decision 23: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
23	SAIHC15 - 16	Amend Article 1a of the SAIHC Statutes, to replace Administrative Resolution T1.3 with IHO Resolution 2/1997.	SAIHC Secretariat	October 2018

The Chair confirmed that the SAIHC Statutes had been updated with IHO Resolution 2/1997.

Decision 24: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
24	SAIHC15 - IHO comment	All Member States to review revised IHO Resolution 1/2005, and provide comments.	SAIHC Member States	April 2019

The Chair confirmed that this action was covered in SAIHC Letter No. 3/2019 requesting comments on the revised IHO Resolution 1/2005 and the subsequent SAIHC Report to IRCC11 incorporating the SAIHC view to support the recommended changes.

Decision 25: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
25	SAIHC15 - 18	SAIHC Secretary to provide organisational details for SAIHC conferences to Kenya.	SAIHC Secretary	30 September 2018

Decision 26: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
26	SAIHC15 - 18	Kenya to provide contact details to SAIHC Secretary to enable Kenya to host SAIHC16, subject to national approval.	Kenya	October 2018

Decision 27: Action Closed.

No.	Agenda Item	Action	Action By	Deadline
27	SAIHC15 - Seminar	CB Coordinator to include risk discussion in next Seminar.	CB Coordinator	SAIHC16

Decision 28: Action Closed.

6. SAIHC STATUTES

The SAIHC Secretariat detailed the following changes under the 7th Amendment to the SAIHC Statutes:

- Cover page:
 - Flag for India included
 - Flags for Seychelles, Malawi and Portugal amended
- Article 1a “Administrative Resolution T1.3” replaced by “IHO Resolution 2/1997”, to close SAIHC15 Action No. 23.
- Page 7:
 - Stamp and signature for India included.

The Chair requested any further proposed amendments to the SAIHC Statutes, there were no comments and the 7th Amendment to the SAIHC Statutes was approved for uploading to the IHO website.

7. RELEVANT INTERNATIONAL ORGANIZATIONS’ REPORT (session 1 of 2)

7.1 General Bathymetric Charts of the Oceans (GEBCO) and Seabed 2030

The Chair introduced the GEBCO and Seabed 2030 agenda item with the following IRCC11 Actions and Recommendations relating to GEBCO:

IRCC11 Actions

i) IHO-IOC GEBCO Guiding Committee (IRCC11-0711)

Action 11: IHO Secretariat to issue a CL seeking Member States' approval for the draft amendments of the IHO Publication B-6 (deadline: 30 July 2019).

Action 12: RHC Chairs to consider the tasks listed as duties for the Regional Seabed Coordinator/Mechanism (doc. IRCC11-0713) and to include Seabed 2030 in RHC work plans and reports to IRCC (deadline: IRCC12)

IRCC11 Recommendations

i) IHO-IOC GEBCO Guiding Committee (IRCC11-0711)

16. Continue to organize contribution of bathymetric data in shallower coastal areas from their member states to DCDB in order to support the production of higher resolution gridded data products of GEBCO.

17. Invite and communicate with GEBCO members to attend their meetings as appropriate;

As a nominated Member of the GEBCO Guiding Committee, Mr Evert Flier, Norway, provided the GEBCO presentation, which is available on the IHO website - SAIHC16-7.1.

Norway credited Dr Vicki Ferrini, USA - NOAA, Chair of the GEBCO SubCommittee for Regional Undersea Mapping (SCRUM) for the material in the presentation.

Since 1903, GEBCO has aimed to provide the most authoritative, publicly-available bathymetric data sets of the world’s oceans. Norway suggested that with the Seabed 2030 project the GEBCO focus is now on the completion date of 2030 and highlighted the considerable progress since 2014 where there was approximately 6% good coverage globally to 15% in 2019, through making existing data available.

Norway referred to the NIPPON Foundation, a significant contributor to the work, the Chairman of the NIPPON Foundation proposed in 2016 '...to map 100% of the topography of the World Ocean by 2030'. Norway acknowledged the significance of the year 2030, as it is also the 2030 Agenda for Sustainable Development, and the UN Decade of Ocean Science ending in 2030. Norway stated that we have 11 years to do what we couldn't do in the last 116 years, and therefore we need to change our business in order to achieve this.

Norway highlighted the Capacity Building initiative and the best contribution to ocean floor mapping, GEBCO-NF Alumni, winner of the Shell Ocean Discovery XPRIZE in 2019. With complete mapping of our ocean floor we will be empowered to make policy decisions, use the oceans sustainably and undertake scientific research informed by a detailed understanding of the ocean floor.

Norway acknowledged the great results that had already been achieved, since the announcement of the Seabed 2030 project in 2016, and the importance of bathymetric data for nautical charts and for every activity in the marine domain.

Norway discussed the Seabed 2030 Strategy which includes, encouraging and facilitating the sharing of bathymetric data, as one of the main challenges. Seabed 2030 consists of four Regional Centres and a Global Centre, which all coordinate with stakeholders, Norway suggested that the SAIHC region needed a Seabed 2030 representative.

Norway mentioned the base map for the GEBCO grid, which is becoming the authoritative base map for many applications and services.

Norway highlighted the numerous data sources and noted the initiative for some countries to share their data from ENCs, maximising data that is already there.

Norway discussed the depth resolution goals required below and requested that Member States show where their waters are Seabed 2030 compliant and where their waters are not Seabed 2030 compliant, this is important as Research Vessels may deviate their course in order to collect data where known to be not Seabed 2030 compliant.

- 100m grid down to 1500m,
- 200m grid down to 3000m,
- 400m grid down to 6000m,
- 800m grid down to deeper.

Norway highlighted the Seabed 2030 Phases A + B + C = 100%, A relates to the 15% of coverage already in the GEBCO grid, B relates to the data which exists but is not accessible, and C relates to no available data.

Norway explained that a lot of the data in the GEBCO grid is trackline data, however there is resistance to ships logging data in our home waters and requested that Member States do what they can to allow data and knowledge within their national regulations to be shared. Norway provided a number of examples including the signing of a MOU with the Institute of Marine Research to include bathymetric data collection in their scientific voyages.

Norway concluded by highlighting IHO's establishment of an overview for the types of data collection allowed in Member States waters and asked all to contribute to this.

The Chair thanked Norway and stated that coordination was key, and suggested that for IRCC11 Action 12 above, that the Regional Seabed Coordinator/Mechanism be included in the SAIHC MSDIWG; all were in agreement.

Decision 29: SAIHC representative for Seabed 2030 to be Chair of MSDIWG.

UK presented the 100m grid for the SAIHC region based on the vector data holdings of UKHO, which showed that there was a lot to do within the SAIHC region. The Chair requested that other Member States share their data holdings to reflect the true data holdings for the SAIHC region.

France confirmed that they have bathymetric data available online in this region which can be downloaded. The Chair actioned UK to incorporate the SHOM data in the 100m grid.

Portugal confirmed that they are planning to support Angola with their new ship. The Chair acknowledged the importance of sharing where we are collecting data particularly in the deep oceans, to coordinate efforts. A further discussion on data sharing and funding continued.

South Africa raised the issue of ingesting new data, as they were not currently getting access to the data from survey work completed. Norway shared South Africa's concern, and reflected that this is a concern for most HOs, and highlighted that data collected should enable HOs to improve their products and services, and that HOs should be in the loop of the data flow to the IHO DCDB.

The Chair requested that Member States with data work together within the MSDIWG to establish how to best display the data and raise awareness of the gaps to show where we need to collect, and to increase our level of communication and collaboration around these activities.

Action SAIHC 16 - 1, renumbered to Action 13 in Annex A: UK to retrieve SHOM data from portal to include in generation of 100m grid for SAIHC region. Deadline: 31 October 2019.

Action SAIHC 16 - 2, renumbered to Action 16 in Annex A: SAIHC MSDIWG to include Seabed 2030 activity and support in ToR. Deadline: During SAIHC16.

7.2 Crowd Sourced Bathymetry (CSB)

The Chair highlighted the following IRCC11 Recommendations relating to CSB:

IRCC11 Recommendations

g) CSB Working Group (IRCC11-07G)

11. Encourage Member States to release datasets or subsets into the public domain via the IHO DCDB;

12. Encourage Member States to state their policy on data gathering restrictions within their maritime areas of jurisdiction, as requested in IHO CL 11/2019, to enable CSB activities to be undertaken;

13. Encourage Member States to support the CSB initiative with positive actions, such as requiring all research vessels collect bathymetric data for late uploading, when on passage or when it does not interfere with other research activities;

14. Encourage Member States to support a scaled trial of CSB data collection as a follow on to earlier pilot programmes.

Mr Evert Flier, Norway, provided the CSB presentation, which is available on the IHO website - SAIHC16-7.2.

Norway highlighted the current scepticism surrounding CSB data, which is closely related to the current work of the DQWG and stated that there is no such thing as good data or bad data, there is only different qualities of data that can be used for different purposes.

Norway confirmed that they use CSB data on their nautical charts but only with known metadata, and mentioned NOAAs data policy of using the best available data, and the need to work internally within the IHO community to use all available means.

Norway highlighted the original task of the CSBWG to develop a guidance document for CSB, this task has now expanded to facilitate CSB data collection, management and distribution worldwide and contribute to global initiatives like Seabed 2030. Norway highlighted the significant highlights from the CSBWG, the current status of the IHO DCDB with 154 million soundings, and presented a number of use cases, including the Great Barrier Reef Project, and highlighted the problems encountered, including the growing concern over the apparent lack of dedicated resources available within national HOs to process data available from the IHO DCDB.

Norway highlighted the following items to note from the CSBWG:

- The continued importance of liaison with other IHO bodies, as well as appropriate engagement with industry to progress the work items, was identified as a key enabler for the project.
- There is a need to showcase various use cases of CSB data to indicate the benefits and how MS can utilize 'free' data for their own national uses.

Norway touched on the issue of liability throughout the presentation, from using CATZOC, to lack of resources.

The Chair thanked Norway, and summarised that this was about collaboration and coordination, and acknowledged that we have been utilising CSB in our products since we started producing charts. In particular for the SAIHC region, there are many of our products which only contain CSB in the form of track soundings. The Chair emphasised the importance of using the best data available, and the reuse of that data, managing the data correctly.

The Chair asked whether we were all happy for CSB activities to take place in our waters, or whether we were happy for some elements to take place and provided an example for the UK. The Chair noted that it should be more a question of what we would allow.

The IHO Director encouraged all to contribute and acknowledged that the response form in IHO CL 11/2019 may need to be amended. Norway agreed that the response form should be changed, as the focus should be on which CSB activities we do support, and confirmed that definition plays a major role, for instance, when is it passage sounding and when is it CSB. A lengthy discussion on the different activities, including single beam and transiting between survey areas with MBES, and restrictions within Member States EEZ and TTW followed.

Norway referenced to the IHO CSB List that states what activities Member States will allow in their home waters and asked the IHO Director if there is a complete overview on this for the SAIHC region. The IHO Director confirmed that the deadline for the questionnaire in IHO CL 11/2019 was open-ended, a third of Member States had responded so far and the list will be published soon.

Decision 30: Once responses have been gathered, the IHO Director to contact CSBWG to consider amending questionnaire to provide other options for nations, i.e. single beam allowed but not multi beam.

The Chair encouraged all SAIHC Members and Associate Members to review B-12 Crowdsourced Bathymetry Guidance Document, and from a regional perspective report back to the Chair indications of what we can allow from B-12 in our TTW and EEZ, and the concerns around the issues that we cannot allow, with a deadline of 30th September 2019, to allow the SAIHC representative at C-3 to inform the debate and help the wider community to help overcome this perceived block.

Norway highlighted that the next CSBWG is a week after C-3, and it would be beneficial to understand the discussions at C-3.

Malawi asked for a definition of CSB, Norway confirmed that this is the data collected by non-HO while they are doing something else, not systematic surveying, and directed Malawi to the definition in B-12.

Action SAIHC 16 - 3, renumbered to Action 14 in Annex A: Circulate IHO CL11/2019 - Call for Approval of Edition 2.0.0 of IHO Publication B-12 Crowdsourced Bathymetry Guidance Document, to SAIHC Associate Members. (see SAIHC16 Action 28). Deadline: 30 September 2019.

Action SAIHC 16 - 4, renumbered to Action 15 in Annex A: SAIHC Members and Associate Members requested to inform SAIHC Chair and Vice Chair with indication of what CSB activity would be permitted in their EEZ and TTW. To enable discussion at C-3 and to inform CSBWG in October 2019. Deadline: 30 September 2019.

8. IHO MATTERS

8.1. IHO Secretariat Report

8.1.1. IHO Year Book P-5

The IHO Director thanked SAIHC for the P-5 updates received and there was an action on Member States to check their P-5 entry during the meeting.

8.1.2. Status of Hydrographic Surveying and Nautical Charting Worldwide C-55

The IHO Director provided a presentation on C-55 currently held in the IHO database, which is available on the IHO website - SAIHC16-8.1 and reflected that the lack of surveys in deep water (>200m) in the SAIHC region was a good argument for CSB.

The IHO Director directed Member States to the detailed IHO Secretariat Report and provided a presentation on the IHO Work Programme, both are available on the IHO website - SAIHC16-8.1. The key highlights from the presentation included:

IHO Work Programme

1. Corporate Affairs

The IHO Director highlighted the important discussions about S-100, shape of Capacity Building, CSB and the Strategic Plan review.

2. Hydrographic Standards and Services

The IHO Director highlighted the progress with S-100 based Product Specifications.

3. Inter Regional Cooperation and Support

The IHO Director highlighted the following items:

- ENC coverage and overlap update

The IHO Director stated that the issue of overlapping ENCs is getting worse from the evidence provided at WENDWG9.

- Crowd Sourced Bathymetry update

The IHO Director noted that B-12 Edition 2.0.0 Guidance on CSB was approved, and that the deadline on Annex B of IHO CL11/2019 was open-ended, once enough feedback had been received a positive response table would be published and maintained on the IHO website for CSBWG.

- Iridium as new Marine Safety Information provider

The IHO Director highlighted the following changes:

- Ships will be required to carry either a type approved Inmarsat or Iridium receiver to meet their SOLAS requirements.
- All information providers will be required to transmit their messages via both Inmarsat and Iridium.

At present, unlike GNSS, there are no multi-system capable ship receivers available.

The IHO Director asked the NAVAREA Coordinator to take note of this and discuss with their service providers.

4. IHO Secretariats operations

The IHO Director highlighted the following items:

- Renewal of INTOGIS Service interface
- Online voting for CL response, and online updating of C-55 and P-5
- Ongoing activities on a technical overhaul of IHO Secretariat's communication channels
 - Social media
 - Corporate Design
 - Website
- Preparations for IHO Centenary celebrations

France queried if there had been any outcome from responses on Annex B of IHO CL 11/2019, the IHO Director highlighted that the deadline is open-ended, and the response would be discussed at the CSBWG. This generated further discussion and raised an action on South Africa, as SAIHC Member at IHO Council.

France questioned the intention of the expansion of Satellite services e.g. Iridium and raised concerns over the extra burden on NAVAREA Coordinators and service providers, the IHO Director agreed and confirmed that how this would function in practice still needed to be determined. This generated further discussion and raised an action on South Africa, as SAIHC Member at IHO Council.

Action SAIHC 16 - 5, renumbered to Action 17 in Annex A: SAIHC Member at IHO Council to raise concern on CL11/2019 - Call for Approval of Edition 2.0.0 of IHO Publication B-12 Crowdsourced Bathymetry Guidance Document. Deadline: C-3.

Action SAIHC 16 - 6, renumbered to Action 18 in Annex A: SAIHC Member at IHO Council to raise concern at C-3 on the impact on NAVAREA Coordinators as a result of the expansion of Satellite services e.g. Iridium. Deadline: C-3.

8.2. 2nd Meeting of the IHO Council Report

The following IRCC11 Recommendation relates to C-2:

IRCC11 Recommendation

8) Outcomes of the 2nd Meeting of the IHO Council (C-2)

19. Consider inviting MapAction to the RHC meetings.

South Africa directed Member States to the detailed C-2 Summary Report and IHO CL 51/2018 - Outcome of the 2nd Meeting of the IHO Council and provided a presentation on the key topics from C-2, all are available on the IHO website - SAIHC16-8.1. The SAIHC region was well represented with attendance from France, India, Norway, Portugal, South Africa, and UK.

The key agenda items discussed included:

- Strategic Plan Review Working Group (SPRWG) Report
South Africa highlighted that the Strategic Plan comprises three Smart Goals, from which eight targets were conceived, and implementation will include standardization, coordination and cooperation, Capacity Building and Communication, and advised that further details were available in the report.
- IHO Resolution 2/1997 amendments to the Establishment of RHCs
South Africa confirmed that IHO Resolution 2/1997 is approved and will be incorporated into IHO Publication M-3.
- S-100 product revision
South Africa highlighted the IHO Council discussion on the development and future provision of S-100 products based on the joint submission from HSSC, IRCC and the Secretary-General. Four

Member States reported on their initial experiences of implementing the new S-100 based standards, from which four key decisions were made and endorsed by IHO Council.

- CSB guidelines

South Africa highlighted the need for further work for depicting the data flow before B-12 - IHO Guidelines on CSB, can come into force with full effect.

- IHO Annual Work Programme

South Africa made comment only on Edition 6.0.0 of S-44, as the IHO Director had already commented on the summary presented at C-2.

- Seabed 2030

South Africa highlighted the opportunity available to the RHCs to contribute to Seabed 2030.

- Preparation for C-3 and A-2

South Africa highlighted the tight deadlines for inputs to C-3 and A-2.

- IHO communications

South Africa reiterated the World Hydrographic Day theme “Hydrographic information driving marine knowledge”.

The Chair thanked South Africa.

8.3. IRCC11 Report

The IHO Director confirmed that the relevant RHC Actions and Recommendations from IRCC11 would be covered later in the agenda.

The IHO Director provided an overview of the work of the IRCC and the topics discussed at IRCC11, which is available on the IHO website - SAIHC16-8.3.

The IHO Director highlighted the following topics of discussion:

- MSI - difficulties in ensuring Maritime Safety Information (MSI) infrastructures in the West and Central Africa region, IRCC urged close liaison between regional CB Coordinators and the WWNWS-SC on the programming of and candidate selection for MSI training.
- Capacity Building - IRCC acknowledged the concerns of the CBSC due to the restrictions caused by a shortage of funding to support the CBWP.
- C-55 - IRCC11 identified the need for regional engagement to encourage Member States to use CATZOC to generate the input to C-55 in a consistent and harmonized way.
- CSB - progress was noted in CSB, the new IHO Publication B12 (Guidance on Crowdsourced Bathymetry) and the need for RHCs to engage and encourage Member States to release datasets or subsets into the public domain via the IHO Data Center for Digital Bathymetry (DCDB). Reports were received on increased data contributions to the DCDB and for GEBCO, highlighting the positive impact of GEBCO Seabed 2030 Project.
- IHO Resolutions - IRCC11 endorsed the draft amended IHO Resolutions 2/1997 Establishment of Regional Hydrographic Commissions and 1/2005 IHO Response to Disasters. MapAction, a humanitarian mapping charity, presented its work and the potential synergies in responding to disasters by working with the IHO and with RHCs. Disaster response plans are under development in some RHCs and experiences were shared during the meeting.

8.4. WENDWG9 Report

The following IRCC11 Recommendations relate to WENDWG:

IRCC11 Recommendations

d) WEND Working Group (IRCC11-07D1)

6. Make their own risk assessment of navigational risk for ENC overlaps and to take action to

manage these as required.

7. Reinforce to Members States the fact that the one-year "clock" to resolve overlaps should begin once the overlapping issues, starting with the potential highest risk cases, have been reported to ENC producers (Resolution 1/2018 – IHO CL 19/2018 refers).

8. Encourage ENC producers to make available all ENC data (including exclusive data) to every RENC to facilitate quality control (overlapping checks, risk assessment etc).

9. Continue timely provision to WENDWG of status reports on ENC coverage, availability and overlaps.

10. Encourage ENC producers to provide their agreement, to their RENC, for making CATZOC values available in the additional layers of INTOGIS II (Manager Mode only, available to MS only).

The IHO Director provided a presentation on the IHO WENDWG, which is available on the IHO website - SAIHC16-8.4. The key highlights included:

- WEND TOR - Purpose
- 9th WENDWG meeting
- ENC Coverage and Overlapping Issues
- RENC Harmonisation and Distribution
- Implementation of WEND Principles

The IHO Director requested SAIHC Member States to note that the time has come to start applying the different steps identified in the IHO Resolution 1/2018 - Elimination of Overlapping ENC Data in Areas of Demonstrable Risk to the Safety of Navigation, to be in a more robust position to evaluate effectiveness in the near future.

8.5. HSSC11 Report

The IHO Director provided a presentation on HSSC11, which is available on the IHO website - SAIHC16-8.5. The key priorities included:

Operational/strategic level

- Resolution 2/2007 as amended

The IHO Director highlighted the benefits of the Resolution and the potential improvement in processes in standard development and maintenance. HSSC and IRCC endorsed the amendments to Resolution 2/2007 and MS approval has been requested with IHO CL 32/2019, with deadline for responses 19 September 2019.

- S-100 Implementation Strategy

This highlighted the need for strategic discussions and guidance on the development, the implementation and the provision of future S-100 based products.

- Future of Paper charts

The IHO Director requested that IHO Member States contribute to IHO CL 29/2019 - Survey of IHO Member States on the Future of the Paper Nautical Chart, as the deadline had been extended to ensure more information is available for a more informed decision and highlighted the ultimate goal to fully automate the creation of paper products from populated ENC vector databases.

Technical level

- Demonstration showcase of S-100 based products

The IHO Director highlighted the C-2 task on HSSC to organise a demonstration showcase of S-100 based products and test beds as an embedded session at C-3 in October 2019.

- Development of the S-1xx Product Specifications and operationalization of S1xx framework

The IHO Director highlighted the different S-100 based Product Specifications and their current progress.

- Priorities of IHO 2019 Work Plan 2

The IHO Director highlighted the following priorities of IHO 2019 Work Plan 2:

- Develop an S-100 interoperability specification
- Develop S-121 Product Specification for Maritime Limits and Boundaries
- Develop all the components needed to make S-101 a reality
- Consolidation and clarification of standards in relation to ECDIS/ENC
- Prepare Edition 6.0.0 of S-44
- Consider data quality aspects in harmonized way for all S-100 Product Specifications
- Hydrographic Dictionary S-32

The IHO Director highlighted the main achievement:

- The Hydrographic Dictionary and the IHO GI Registry will share the same management system, use the same metadata and will be enriched and maintained by using the same procedure.
- A new online dictionary will replace the current Wiki-version.

The Chair highlighted the importance of HSSC and the Working Groups, which is essential for our future in supporting the Mariner and the wider user in the maritime community, and encouraged all IHO Members to attend the meetings, and read the reports as a minimum.

India raised their concern with the quality of bathymetric data with the increased quantity of surveying and recommended that quality was agreed in S-44. India also raised their concern on the future of paper charts, stressing that the paper chart is a legally valid document and that countries cannot be left behind. Norway believed that paper charts would continue for some time and suggested that we needed to look at the resources required to produce them and the full automation of paper charts from ENCs, which would require the IHO community and end users to accept a different look paper chart.

8.6. Marine Spatial Data Infrastructure (MSDI)

The IHO Director provided a presentation on the IHO MSDI WG, which is available on the IHO website - SAIHC16-8.6. The key highlights included:

- MSDI WG Membership - noting good membership from SAIHC
- Principal activities and achievements
- New TOR of MSDI WG - to include the development in MSP implementation worldwide
- RHC MSDI Ambassadors - covered by the SAIHC MSDI WG
- MSDI training material - Orientation and Fundamentals eLearning courses
- IHO MSDI Video, produced by KHOA
- Problems encountered

The Chair thanked the IHO Director for the presentation and encouraged all to look at C-17 - Spatial Data Infrastructures: "The Marine Dimension" - Guidance for Hydrographic Offices, and the IHO MSDI Video.

UK added that the MSDI WG training material would be sent out ahead of the SAIHC MSDI WG.

The Chair closed SAIHC Plenary to hand over to the INT Chart Coordinator (South Africa) to commence with the 8th ICCWG meeting.

9. SAIHC input to IHO meetings (Closed Session)

It was agreed to move this agenda item under AOB.

10. 8TH SAIHC INT CHART COORDINATION WORKING GROUP (ICCWG) MEETING

REPORT FOR 8th SAIHC INT CHART COORDINATION WORKING GROUP MEETING

Cape Town, South Africa

3rd September 2019

Docs: ICCWG8-1 - Agenda

ICCWG8-2 - Minutes of ICCWG7

ICCWG8-3 - Actions of ICCWG67

Membership: France, Mauritius, Mozambique, Norway, Republic of South Africa, Seychelles, United Kingdom.

Associate Members: Angola, Comoros, India, Kenya, Malawi, Madagascar, Namibia, Portugal, Tanzania.

1. Introduction

Members were reminded of the purpose of the meeting which is to promote co-operation and co-ordination of charting in Region H, and the importance of adhering to the protocols and policies in order to achieve objectives for safe navigation.

The report briefly summarises the amendments and updates to the action items arising from the 7th ICCWG meeting as well as agenda items discussed during the meeting.

2. Actions arising from Minutes of 7th ICCWG Meeting

No.	Agenda Item	Action	Action By	Deadline
1	ICCWG6 - Action 4	ICC-WG Coordinator to contact Russia and Australia to resolve ENC overlap	ICC-Coordinator	The ICCWG Coordinator had contacted the countries by formal letter on 12 February 2018 and has had no response to date. Ongoing.
2	ICCWG6 - Action 5	Provide link to ENC portal demonstrator to MS	IHO Secretariat	Link provided by IHO Secretariat. Item closed.

3	ICCWG6 - Action 6	Define minimum meta data required to support trial ENC scheme	ICC-Coordinator	IHO Secretariat had informed the ICCWG Coordinator that regular inputs and updates were received from MS. The trial ENC Portal has yet to be updated to reflect the information. To action by: 31 October 2018.
4	New action based on ICCWG6 - Action 7	To define ENC scheme for SAIHC Region H.	ICC-Coordinator	28 Dec 2018
5	ICCWG6 - Action 8	Suggested trial teleconference	ICC-Coordinator	There is a trial teleconference planned for 30 November 2018 coordinated by UK and South Africa with MS. The agenda for this teleconference is still to be decided. 30 Nov 2018
6	ICCWG6 - Action 10	INT 7582 – is to be removed from S11 and the chart is to become INT 7583 (new INT number). A copy of this chart needs to be circulated to the members for comment and will be pending until this is done.	SAIHC Member States	INT 7582 removed from S-11. New chart INT 7583 has been added to S-11 (national number still to be decided) Mozambique and Portugal still in discussions and work is progressing. Ongoing.
7	ICCWG6 - Action 11	INT 7631 – this is related to Action Items 3 and 6 with ongoing discussions between UK, MZ and PT. New survey data is awaited and this will affect buoyage's and chart limits (which still need to be confirmed). Proposed completion date is end of 2017.	UK Portugal Mozambique	Mozambique reported that survey data should be ready by September 2018. Ongoing.
8	ICCWG6 - Action 12	INT 7632 – ongoing discussions between UK, MZ and PT regarding new charting limits.	UK Portugal Mozambique	As above for action 11.
9	ICCWG6 - Action 13	INT 7645 – the Scheme has been proposed and is in process. As soon as the limits have been established, they are to be forwarded to the chairman for inclusion in S11.	PT/MZ South Africa	Portugal reported that data had been exchanged. Ongoing.

10	SAIHC15 - ICCWG 3.4	Member States to feedback comments on how CATZOC is to be used to DQWG.	Member States	Feb 2019
11	SAIHC15 - ICCWG 7.1	UK, Tanzania, Kenya, and India to coordinate ENC requirements to provide the latest data in a carriage compliant product for the Mariner and report back to ICCWG coordinator.	UK, Tanzania, Kenya, India	28 Nov 2018
12	SAIHC15 - ICCWG 7.2	PCA to coordinate with Kenya and Tanzania ENC priorities and create a plan for ENC scheme.	UK, Kenya, Tanzania	28 Nov 2018
13	SAIHC15 - ICCWG 3.2	India and UK to confirm when overlaps with GB ENCs have been removed in Seychelles, Tanzania and Mozambique	India and UK	28 Dec 2018
14	SAIHC15 - 21	To provide a report on the latest state of overlaps in SAIHC region.	ICC-Coordinator	28 Dec 2018

3. Actions arising from Minutes of 8th ICCWG Meeting

No.	Action	Action By	Deadline
1	ICC-WG Coordinator to contact Russia and Australia to resolve ENC overlap	ICC-Coordinator	Ongoing.
2	Provide link to ENC portal demonstrator to MS	IHO Secretariat	Closed.
3	Define minimum meta data required to support trial ENC scheme	ICC-Coordinator	Closed.
4	To define ENC scheme for SAIHC Region H.	ICC-Coordinator	Ongoing.
5	Suggested trial teleconference	ICC-Coordinator	Ongoing.
6	INT 7582 – is to be removed from S11 and the chart is to become INT 7583 (new INT number). A copy of this chart needs to be circulated to the members for comment and will be pending until this is done.	SAIHC Member States	INT 7582 removed from S-11. Ongoing.
7	INT 7631 & INT 7632 – ongoing discussions between UK, MZ and PT. New survey data is awaited and this will affect buoyage's and chart limits (which still need to be confirmed).	Portugal Mozambique	Ongoing.
8	INT 7645 – the Scheme has been proposed and is in process. As soon as the limits have been established, they are to be forwarded to the chairman for inclusion in S11.	PT/MZ	Ongoing

9	Member States to feedback comments on how CATZOC is to be used to DQWG.	Member States	Ongoing.
10	UK, Tanzania, Kenya, and India to coordinate ENC requirements to provide the latest data in a carriage compliant product for the Mariner and report back to ICCWG coordinator.	UK, Tanzania, Kenya, India	Ongoing.
11	PCA to coordinate with Kenya and Tanzania ENC priorities and create a plan for ENC scheme.	UK, Kenya, Tanzania	Closed.
12	India and UK to confirm when overlaps with GB ENCs have been removed in Seychelles, Tanzania and Mozambique	India and UK	Ongoing.
13	To provide a report on the latest state of overlaps in SAIHC region.	ICC-Coordinator	Closed.

4. ENC Overlaps within the Region

During the meeting the status of ENC overlaps in the Region, of which some have surpassed the 1 year clock, was raised. It was also mentioned that overlapping ENCs are increasing in the region. The ICCWG Coordinator for Region H requested action in accordance with WEND and IRCC resolutions in order to resolve ENC overlaps.

Emphasis was placed on the importance of removing overlapping ENC data in region H and reference was made to IHO Resolution 1 of 2018 which relates to the elimination of overlapping ENC data in areas of demonstrable risk to the safety of navigation. An assessment using the overlap tools available highlighted 9 existing overlaps in the region ranging from overall severity of risk from low to medium. It was requested that MS take the necessary action to remove the relevant overlaps and to note the importance of adhering to the protocols and policies. The overlaps were highlighted during the presentation which consists of 4 within South Africa's own ENC folio which includes one overlap with France*. UK and FR confirmed that they had removed a recently identified overlap. The overlap between Russia and Australia has yet to be resolved.

*Post meeting note: The PRIMAR overlap checker does not report any overlap for France as of 14 October 2019.

Malawi suggested a possible case study by the IHO to evaluate and assess an existing overlap, in an attempt to resolve overlap issues which remain unresolved. The IHO Director provided further input and stated that it was a very valid point raised by Malawi and that in the case where another organisation conducts a survey on behalf of the coastal state, it is important to make the latest survey data available to the PCA.

5. Overlap Reports

The WENDWG had endorsed the IC-ENC overlapping policy as a first step to identify navigationally significant overlaps.

MS were reminded to make use of the IC-ENC Overlap Report, PRIMAR Overlap Checker and the INTOGIS Overlap Checker as mechanisms to eliminate overlapping ENC data in areas of risk to the safety of navigation.

6. S-11 - Region H Chart Scheme (Status of INT Charting)

The current status of INT chart coverage for Region H was displayed by means of graphics showing a total of 125 INT charts of which 102 are produced and 23 are schemed.

It was mentioned that the focus of ICCWG meetings in future will tend to naturally tend to shift towards ENC production and schema.

Due to time constraints the status of S-11 was not covered in detail but the ICC Coordinator of the region will send a copy of S-11 to members for updates. New editions and schemed charts were highlighted in the National reports and S-11 will need to be updated as applicable to reflect most up-to-date status.

7. IHO GIS Developments

The IHO Director gave a comprehensive and informative presentation on the latest developments and functionality regarding the INTToGIS 2 which is currently available to INT chart coordinators. The following were highlighted; ENC scheme management procedure, World port layer, ENC scheme gap finder, ENC scheme overlap checker, AIS traffic density layer, CATZOC layer and other IHO layers.

8. Conclusion

Members are requested to note the report including the updated action items which will be forwarded to the secretary for inclusion in the final minutes and available on the IHO website once uploaded.

As a suggestion, for consideration of the chair, it could be an option in future to conduct a separate meeting outside the SAIHC meeting with MS due to the time constraints, to deal more specifically with problematic areas within the region such as addressing ENC overlaps and any other charting issues.

11. ACTIONS AND RECOMMENDATIONS ARISING FROM IRCC11

It was agreed to move this agenda item to Day 3 of Plenary.

12. MARINE SPATIAL PLANNING AND NATIONAL OCEANS AND COASTAL INFORMATION MANAGEMENT SYSTEM - SOUTH AFRICA

The Vice-Chair introduced Ms Lauren Williams, Department of Environmental Affairs, member of the National Working Group for Marine Spatial Planning (MSP), and acting Manager of the National Oceans and Coastal Information Management System (OCIMS) for South Africa to provide a presentation on how MSP and the National OCIMS is unlocking the Blue Economy with Operation Phakisa - “hurry up”.

Ms Lauren Williams provided a presentation on MSP and the National OCIMS for South Africa, which is available on the IHO website - SAIHC16-12.

Ms Lauren Williams confirmed that data is not stored in OCIMS, and the Core System is the internet landing page, a data portal and metadata harvester provides a data searching interface. OCIMS is supported by the Marine Information Management System (MIMS), which is a format agnostic data repository. The OCIMS Core runs monthly analytics on each of the Decision Support Tools (DeST).

Ms Lauren Williams highlighted the following topics:

- MSP
- Integrated Vessel Tracking
- Harmful Algal Blooms
- Coastal Flood Hazard Tool
- Planning Operations at Sea
- Water Quality
- Coastal Viewer
- Bilge Dumping

The Chair thanked Ms Lauren Williams for her presentation, and was pleased to note that navigation, charts and ENCs were not mentioned, which only emphasised the usefulness of the data that we provide and gave an excellent example of the wider utilisation of data to unlock the Blue Economy, and improve the protection and safety of the marine environment.

Norway asked how the data accessed from CIMS was guaranteed to be updated and authoritative, as provided from a Government agency, Ms Lauren Williams confirmed that data curators provided the data controls, and with the OCIMS DeST there are agreements in place with the data providers which ensures that the latest information is always available.

UK thanked Ms Lauren Williams for an inspiring presentation for the SAIHC MSDIWG and asked what percentage of the data analysis was automated, Ms Lauren Williams confirmed that they were trying to eliminate the human part where possible, and use algorithms to automate processes, utilising expert advice from human interaction as required.

The Chair noted that more and more people were wanting to be involved and engage, and asked how this was achieved, Ms Lauren Williams confirmed that this had been achieved through presentations, stakeholder engagement, students, technical advisory groups with sea and fisheries industries supporting and expert specialist networks spreading the word, she said it grows and grows, and referred to an email she had recently received from a group of penguin watchers to contribute their data. The Chair concluded by stating that you never know who wants the data and what they want to use it for.

Action SAIHC 16 - 7, renumbered to Action 19 in Annex A: Marine Spatial Planning and National Oceans and Coastal Information Management System presentation from the Department of Environmental Affairs to be uploaded to SAIHC website. Deadline: 30 September 2019.

Wednesday 4th September 2019, Day 2 of Plenary started with a warm round of applause in appreciation for the hosts of last night's function - South Africa and Underwater Surveys, which included a Navy band, chefs for the traditional South African "Braai" and wine tasting from three local vineyards.

13. SAIHC Committees and Working Groups (session 1 of 3) **Southern African and Islands Marine Spatial Data Infrastructure (MSDI) Working Group**

Mr Tim Lewis, UK - Chair of the SAIHC MSDIWG, provided the first report of the SAIHC MSDIWG as a presentation, which is available on the IHO website - SAIHC16-13.

UK highlighted the key phrases from the MSP presentation from yesterday, "interoperable", "open, variety of users", "wider marine use", "data analysis" and "penguin watching" and stated that MSDI would provide the wide variety of use for the data that we already hold.

During the update from SAIHC15, UK mentioned that the TOR for SAIHC MSDIWG would be updated to include Seabed 2030 and thanked France for their contribution to developing the first draft of the TOR and ROP and also Malawi and Kenya for raising some useful questions. UK thanked the countries which had already responded to the MSDI questionnaire and encouraged others to complete this important questionnaire.

UK confirmed that the Baltic Sea North Sea MSDIWG is widely recognised as the most mature area in the development of MSDI and is now moving from the conceptual stage to direct activity.

During the MSDI re-cap, UK highlighted that of the four MSDI pillars, Policy and Governance was the area where development was most required, and presented "FAIR-TLC", the acronym from "Findable, Accessible, Interoperable, Reusable, Traceable, Licensed, and Connected. UK encouraged Member States to read the MSDIWG Annual Report and the background documentation available on the IHO website.

UK highlighted the known MSDI related activity in the SAIHC region, including the Nairobi Convention which hosted Kenya in a MSP report for the fisheries industry.

During the Training/Capacity Building item, UK highlighted the draft training material kindly provided to SAIHC by the IHO MSDIWG and encouraged all to look at this valuable information.

UK announced a UK funded one-week Hydrographic Governance and Data Management Seminar working with FCO Pretoria, to be delivered in February 2020 and confirmed that more details would be released when available. This is a key component of building MSDI capability for the SAIHC region.

UK presented the UK known vector data holdings which allow us to build a 100m grid or greater for the SAIHC region and sends a stark message that we have a long way to go.

UK asked what the Member States wanted the SAIHC MSDIWG to deliver for them and gave the example of the Seabed 2030 piece of work. UK highlighted that the IHO MSDIWG was there to be tasked by the RHCs and referenced their IHO Publication C-17 - Spatial Data Infrastructures: "The Marine Dimension" - Guidance for Hydrographic Offices.

Decision 31: SAIHC MSDIWG to decide what is required from MSDIWG to progress MSDI in the SAIHC region. UK will follow up with correspondence.

UK reflected on what could have been done better to support the cyclone disasters with a more mature SAIHC MSDI WG and requested volunteers to move the group forward.

The Chair highlighted the need to cooperate, collaborate and communicate, and make data available, discoverable and accessible, and the desire to bring MSDI to life for the SAIHC region.

The CB Coordinator commented that she was often asked about MSDI and with the IHO MSDWG training material this information is now available for everyone to learn.

Norway highlighted that MSDI is a means and not the goal, so the goal has to align with what is strategically important to the SAIHC region and added that MSDI is a good way to achieve MSP. Norway offered to contribute, as part of the long-term perspective, and wanted to address what MSDI should achieve for the SAIHC region, and highlighted the importance of sharing experiences.

France was surprised to see that there was no SHOM data in the marine portal and stands ready to help. The Chair asked other Member States with data in the region to ensure that this was included in the Marine Portal.

The Chair raised the issue with the storage of data and the importance of metadata and asked that Member States ensure that their data is correctly tagged when stored.

Action SAIHC 16 - 8, renumbered to Action 20 in Annex A: SAIHC Member States are encouraged to explore the draft MSDI training material available on the SAIHC website and join the SAIHC MSDI WG to progress MSDI within the SAIHC region. Deadline: SAIHC17.

Action SAIHC 16 - 9, renumbered to Action 21 in Annex A: SAIHC Member States are requested to complete the SAIHC MSDI questionnaire, if not already completed. Deadline: 31 October 2019.

14. INDUSTRY PRESENTATIONS - Kongsberg Maritime (session 1 of 9)

Mr Øystein Aasbø, Area Sales Manager - Europe, Africa and Russia, Kongsberg Maritime, provided a presentation entitled "Bringing Clarity to the World Below", which is available on the IHO website - SAIHC16-14.

Kongsberg Maritime have two offices based within the SAIHC region, one in Cape Town and one in Walvis Bay in Namibia. The Subsea product line includes environmental monitoring and underwater science. Mapping Cloud enables data to be transferred anywhere in the world.

Norway asked that with global initiatives, such as Seabed 2030, is Kongsberg Maritime as a global player, in a position to convince customers to contribute to Seabed 2030 and other similar initiatives, Mr Øystein Aasbø confirmed that Kongsberg Maritime fully supports these global initiatives, and was the reason that the Mapping Cloud solution was established and highlighted that their contribution to the Shell Ocean Discovery XPRIZE, was to assist with Seabed 2030.

15. NATIONAL REPORTS

15.1. Members

A. France

Laurent Kerleguer provided a presentation, which is available on the IHO website - SAIHC16-15.1.A.

In 2020, France will be involved in a Technical Visit to Comoros and a High level and Technical visit to Madagascar.

There will be a SHOM hydrographic survey deployment to the Indian Ocean in 2021 which will include surveying in Madagascar, pending diplomatic approval from Madagascar.

There was also a focus on the SHOM MSDI where much of their data is publicly available for free.

France concluded with an update on the underwater volcano in Mayotte.

UK asked if SHOM is pursuing SDB in the region, France confirmed that SHOM is looking at improving the SDB technique, as it is a powerful tool to first guessing a survey area, the results should be available by the end of the year, and for presentation at the next SAIHC meeting.

B. Mauritius

Mr Ferhan Juhoor provided a presentation, which is available on the IHO website - SAIHC16-15.1.B.

The main achievements from Mauritius included:

- Procurement of MBES system
- Module on Hydrography at the University
- Extension of Survey Capabilities to Rodrigues Island
- Article in IH Review - November 2018 Edition

Mauritius will be hosting the IHO funded MSI training course, 21-23 October 2019, and has offered to host the SAIHC17 meeting.

The Chair congratulated Mauritius for increasing their capability with assistance from India, and thanked Mauritius for their contribution in the IH Review.

The SAIHC ICCWG Coordinator, South Africa, asked the timeframe for the new INT Chart 77397, India confirmed that this chart would be published in the next two months.

C. Mozambique

The Director General of INAHINA provided a presentation, which is available on the IHO website - SAIHC16-15.1.C.

Simião Munguambe announced that it was a big day for Mozambique as the Pope was visiting.

The main achievements from Mozambique included:

- Implementation of phase II of the projects aiming of modernization of aids to navigation in the Beira and Maputo channels.
- Keeping the Beira channel navigable immediately after Idai cyclone.

In June 2018, Mozambique hosted a one-week IALA Technical Advisory Visit, and in November 2018, Mozambique also hosted a two-week hydrographic surveying and multi-beam data processing (as part of 2018 IHO/CBSC Program: P-16 - MBES Processing and Data Basing Training for Mozambique).

Mozambique has offered to host the SAIHC18 meeting in 2021.

The SAIHC ICCWG Coordinator, South Africa, asked for the progress with INT Chart 7661, Mozambique confirmed that this would be advanced.

D. Norway

Evert Flier provided a presentation, which is available on the IHO website - SAIHC16-15.1.D.

Evert touched on the special relationship that Norway has with the SAIHC region, with only charting responsibility for Bouvet Island, and reflected that it was more about what Norway could contribute to the SAIHC region.

Norway highlighted their mapping programme Mareano which combines the different disciplines of hydrography, geology and marine biology.

Norway presented their MSDI concept which included the User needs and Socio-economic value which connect the four pillars of MSDI and acknowledged that MSP could not be done without MSDI.

There were no questions or comments.

16. INDUSTRY PRESENTATIONS - AML Oceanographic (session 2 of 9)

Mr David Wilson, Regional Sales Manager, AML Oceanographic, provided a presentation entitled Dealing with Variable SV Structure, which is available on the IHO website - SAIHC16-16.

The presentation reviewed the customer issues when experiencing variable SV structure, stressing the need for more frequent profiling and offered the AML Oceanographic solution - the Moving Vessel Profiler (MVP). The MVP Savings Calculator was also introduced to highlight the cost through lost production time.

A short discussion on the use and accuracy of XBT when compared with the accuracy of direct SV measurement followed.

E. Republic of South Africa

Cdr Christoff Theunissen, South Africa, provided a presentation, which is available on the IHO website - SAIHC16-15.1.E.

South Africa highlighted the development of their eLearning programme which will enable interested parties to raise awareness on matters relating to MSI and basic survey techniques, via an online learning facility, and the following MSDI progress on policy and governance:

- SANHO is fully committed to ensure the successful implementation of Operation Phakisa (Blue Economy) Initiative 6, Marine Spatial Planning (MSP) and Initiative 10 Oceans and Coastal Information Management System (OCIMS) Projects
- The SANHO is attending meetings of the National Working Group (NWG), as well as the South African Spatial Data Infrastructure (SASDI) workshops and meetings to ensure compliance, adherence to policies, standards and specifications for the base data sets.

UK asked the timeframe for INT Chart 7052, the ICCWG Coordinator, South Africa, confirmed that this was still undergoing the verification process, production would resume following the successful transition to the new production and data management system by the end of 2019.

F. Seychelles (unable to attend)

The National Report from Seychelles was not available at the time of the SAIHC meeting.

G. United Kingdom

Mr Tim Lewis, UK, provided a presentation, which is available on the IHO website - SAIHC16-15.1.G.

UK highlighted their main achievements during the year, including Capacity Building support with the NIPPON Foundation course and a Government initiative from the OTs Seabed Mapping Programme which resulted in the delivery of a course on Hydrographic Governance to their OTs, progress on MSDI and the new data collection in St Helena.

UK announced their successful funding bid for a one-week Seminar on Hydrographic Governance and Data Management in South Africa.

The IHO Director requested that the success story with the surveying of St Helena be shared.

Action SAIHC 16 - 10, renumbered to Action 22 in Annex A: UK to write an article for IH Review on the challenges of remote surveying in St Helena. Deadline: 31 January 2020 (for inclusion in the May 2020 Edition).

17. NATIONAL REPORTS

17.1. Associate Members

H. Angola (unable to attend)

The National Report from Angola was not available at the time of the SAIHC meeting.

I. Comoros

Mr Halifa Zouboudou provided a presentation, which is available on the IHO website - SAIHC16-17.1.I.

Comoros highlighted the following progress:

- To meet the obligations of the International Maritime Organization (IMO) in matters of hydrography and marine cartography, Comoros is in the process of signing the Administrative Arrangement with France which expired in September 2017
- Following approval from the Comoros Government to join the IHO, Comoros wish to start the process of membership of the IHO by 2020

Comoros reflected on two of the main challenges:

- Comoros does not have a National Hydrographic Coordinating Committee
- Comoros had not appointed a MSI national coordinator.

Comoros concluded with the lessons learnt from cyclone Idai to conduct hydrographic studies on exposed areas to improve the level of damage from maritime disasters.

The Chair thanked Comoros. There were no questions or comments.

J. India

Captain Mathew of the INHO provided a presentation, which is available on the IHO website - SAIHC16-17.1J.

India highlighted the following achievements:

- Training courses at the National Institute of Hydrography in Goa
- New technologies and software - deployment of AUV and the utilisation of ROV
- Capacity Building training

- Maritime Disasters initiative - emergency contact numbers shown on paper charts
- One of the first responders following cyclone Idai
- Antarctica Survey Programme

AML Oceanographic asked how long India had deployed AUV, India confirmed for the last 4-5 years.

K. Kenya

Mr Simion Ngisirei of the Survey of Kenya provided a presentation, which is available on the IHO website - SAIHC16-17.1.K.

Kenya noted that the Hydrographic Survey Office provides the Chair and Secretariat for the coordinating body for hydrography, Kenya National Hydrographic and Oceanographic Committee (KeNHOC), and highlighted the functions and membership of KeNHOC, and acknowledged the UKHO.

Kenya noted the following challenges:

- Lack of practical experience
- Little or no data sharing by data producers
- Lack of expertise in marine cartography
- Inadequate of political support
- Inadequate capacity
- Inadequate Funding

The IHO Director advised that Kenya liaises with the SAIHC CB Coordinator in order to support their implementation of the IMO audit recommendation.

UK stated that they were pleased to be a part of KeNHOC as it was helpful to all concerned and went on to advise that when Kenya put in a bid for funding to ensure that this included the whole journey and not just the data collection.

A debate followed on funding, training and skill fade, it was agreed that coordination was key.

The Chair noted Kenya's desire to join the IHO.

18. INDUSTRY PRESENTATIONS - Chartwise (session 3 of 9)

Mr Keith Swan, Director, Chartwise Training Limited, provided a presentation on Chartwise Training and Consultancy which is available on the IHO website - SAIHC16-18.

The presentation highlighted consultancy, focusing on the need to carefully consider the way developing HO capability receives effective Capacity Building and stressing the importance of Training Needs Analysis.

17.1. Associate Members continued

L. Madagascar

Mr Narizo Rahaingoalison of the FTM provided a presentation, which is available on the IHO website - SAIHC16-17.1.L.

Madagascar highlighted the following challenges:

- Preparation of an administrative arrangement between FTM and SHOM
- Integration in IHO is still on the point of object in Parliament
- NHC meeting is with a timid activation

Madagascar is currently training two engineers in “Planning and Management of National Mapping and Surveying” in support of the Governance element of MSDI.

The Ministry of National Defence is leading Madagascar in preparation for an International Conference in Safety and Security in the Maritime Domain and Blue Economy, in December 2019. The focus is on nations in East Africa and the Indian Ocean.

The Chair was pleased to note the initiative of the Conference.

M. Malawi

Mr Julius Chisi provided a presentation, which is available on the IHO website - SAIHC16-17.1.M.

Malawi highlighted the following achievements:

- Completed maintenance work of the vessel RV Timba;
- Procured Single Beam Echo Sounder;
- Process of procuring CARIS Chart Composer is in progress;
- 40% of Lake Malawi has been surveyed.
- Carried out survey to determine the positions where to install weather buoys in the lake.

The Chair thanked Malawi and advised Malawi to join the SAIHC MSDIWG to ensure it received the required support.

A short discussion followed on the support required for Malawi charting.

N. Namibia

Mr Mark Eiman of NAMPORT provided a presentation which is available on the IHO website - SAIHC16-17.1.N.

Namibia highlighted the following significant achievements:

- Completion of the New Container Terminal on reclaimed land in August 2019 after 5years of construction. The terminal was commissioned on the 24th August 2019 and had the first vessel calling on the 24th August 2019.
- Other major project is the North Port Tanker Jetty which should be completed and commissioned by the end of 2019.

Namibia showed a number of aerial photos to show the progress on the New Container Terminal.

The Chair congratulated Namibia on the completion of the New Container Terminal and maintaining the strong links with SANHO for the charting.

O. Portugal

Cdr João Paulo Delgado Vicente, Head of Hydrographic Division of IHPT provided a presentation, which is available on the IHO website - SAIHC16-17.1.O.

Portugal highlighted that the major activities of IHPT are in the areas of hydrographic surveying, cartography, safety of navigation, oceanography, geology and chemistry of the marine environment.

The IHPT is also a State Laboratory and is the Portuguese Hydrographic Office.

Portugal confirmed that currently nearly 50% of their waters had been surveyed with MBES and they had used SDB methodologies to evaluate the amount of bathymetric changes since the last survey, and highlighted the new challenge of processing the images acquired by unmanned aerial vehicles (UAVs).

Portugal aspire to be the national primary MSDI and Oceanographic Centre.

The Chair commended the integration of Oceanography, Meteorology and Hydrography as the National Laboratory and their intent to become the national MSDI centre.

P. Tanzania

Mr Edwin Emillian Nkinzo provided a presentation, which is available on the IHO website - SAIHC16-17.1.P.

Tanzania highlighted the following main achievements:

- IMSAS Auditing 9-21 March 2019
- Major Upgrade of Dar es Salaam, Tanga & Mtwara ports (on going project).

Tanzania reflected on the following challenges:

- Coordination NHC stake holders' roles and responsibilities
- Poor turnout for NHC meetings
- Funding
- Succession plan
- Awareness on hydrography and its role to the country economy.

The Chair thanked Tanzania and advised that if their administration was ready, to request a Technical Visit which would support raising awareness of Hydrography to their senior officials.

Underwater Surveys highlighted that a MBES system had been supplied to the Dar es Salaam Port Authority a while ago and it had not yet been used, a good discussion on succession planning then followed which highlighted the responsibility on NHCs to understand and participate in the process.

The Chair concluded that only by exposing the issues could we move forward; communication, collaboration and cooperation between nations were key to resolving the issues currently faced.

The Chair thanked everyone for their engagement.

19. INDUSTRY PRESENTATIONS – Unique Hydra (session 4 of 9

Mr Andrew Laing (Project Manager Project Hotel) and Mrs Genevieve Hornby (Technical and Training Lead Project Hotel) from Unique Group South Africa provided a presentation entitled “The process of knowledge transfer enabling the SA Navy to be at the forefront of Hydrography, Marine Cartography and Training in Africa”, which is available on the IHO website - SAIHC16-19. Cdr Christoff Theunissen presented the South African Navy Training Vision.

Unique Hydra highlighted the process of knowledge transfer to enable SANHO to be at the forefront of hydrography, marine cartography and training in Africa, as part of an ongoing project to rejuvenate the SANHO capability.

20. INDUSTRY PRESENTATIONS – Teledyne CARIS (session 5 of 9)

Mr Charles de Jongh (Account Manager) from Teledyne CARIS, provided a presentation which is available on the IHO website - SAIHC16-20.

The presentation highlighted the importance of compliance with international hydrographic standards and the focus on automated data processing and introduced some new developments, including deep learning techniques to recognize patterns in survey data and automatically locate, classify, and remove noise without operator intervention, and support for IHO S-100 standard, including working on cloud solutions to implement an innovative bathymetric data service.

UK noted the previous discussions on the future of paper charts and asked whether CARIS would be looking to provide a solution for the automation of paper chart production, CARIS hoped that this would be achieved, and is already working on the automation of ENC production.

21. SAIHC COMMITTEES AND WORKING GROUPS (session 2 of 3) Southern African and Islands Hydrographic Commission Capacity Building

The CB Coordinator provided an update on Capacity Building as a presentation which is available on the IHO website - SAIHC16 -21.

The presentation provided an overview of the following CB activities:

- Activities completed under the CB 2018 work plan
 - Hydrographic Awareness Seminar - preceded SAIHC15 in Seychelles (August 2018) IMO, IALA and IHO delivered as one
 - High Level visit to Angola (September 2018) by Brazil and IHO Secretariat
 - MBES Processing and Data Base Training for Mozambique (November 2018)
- The endorsed activities for 2019
 - Seminar preceding SAIHC16 on National Obligations for the Provision of Safety of Navigation, which focused on risk, and IMO, IALA and IHO delivered as one.
 - MSI Course - Hosted Mauritius, led by WWNWS (22-24 October 2019), currently there are only 4 confirmed registrations, so Member States were encouraged to identify suitable candidates
- The proposed and endorsed activities for 2020
 - Due to a reduced CB fund, few projects have been secured, however it is hoped that funding can be secured for two Technical Visits to Madagascar and Comoros, led by France.
- Future Capacity Building Activities
 - The CB Coordinator confirmed the deadline of the end of February 2020 for Member States to submit their requests to her, to ensure that she met the timeline for 2021 funding.

The CB Coordinator thanked Member States for the evaluation forms received so far, and stressed that IMO, IALA and IHO were always ready to support SAIHC Member States.

The CB Coordinator reflected on the CB fund limitations and highlighted the need to be coordinated in our requests to demonstrate the value for the SAIHC region, with all future submissions aligned to the IHO CB Strategy.

The CB Coordinator relayed the need for the SAIHC region to look at CB differently by considering other opportunities such as the eLearning from South Africa and the IHO MSDIWG online training.

Member States were reminded that Phase 2 and 3 courses were only available to IHO Members and the CB Coordinator encouraged non-members to consider IHO membership.

The CB Coordinator highlighted the CB plan for 2020-2023 and will reach out to Member States after SAIHC16 to assess what their priorities are.

The CB Coordinator emphasised the need to show benefits of the CB received and confirmed that she would be reaching out to the MSI Course participants in October to find out the outcomes and realised benefits of the course, working closely with the NAVAREA VII Coordinator.

The Chair asked how we can track who has undertaken the online training, the CB Coordinator confirmed that in the first instance this would be achieved by clear communication from Members, Associate Members and the CB Coordinator, and UK confirmed that the MSDI learning would be providing a login to track use.

The Chair highlighted the importance of the National Report as this was the first place the CB Coordinator looked to determine the CB requirements for the SAIHC region.

The CB Coordinator emphasised the importance of the right people being nominated for the CB training, people who will be staying in the role to maximise the training and also pass it on with succession planning.

Tanzania commented on their challenges, the CB Coordinator confirmed that she would put forward a submission for a Technical Visit, UK recommended that Tanzania convened an NHC meeting to coincide with a Technical Visit to raise the awareness of hydrography to their senior officials.

South Africa suggested that there needed to be two plans for Capacity Building:

1. Traditional route of CB
2. Plan B - using resources within the region to make sure information is made available.

Action SAIHC 16 - 11 , renumbered to Action 23 in Annex A: SAIHC CB Coordinator to reach out to SAIHC Member States following SAIHC16 to plan for training within the next IHO CB plan 2020 - 2023. Deadline: 31 October 2019.

Action SAIHC 16 - 12, renumbered to Action 24 in Annex A: SAIHC CB Coordinator to show the realised benefit of IHO CB activities attended by SAIHC Member States, to feed into the regional plan. Deadline: SAIHC17.

22. INDUSTRY PRESENTATIONS – Underwater Surveys (session 6 of 9)

Mr Ephan Potgieter (Managing Director) from Underwater Surveys (PTY) Ltd, provided a presentation which is available on the IHO website - SAIHC16-22.

Underwater Surveys highlighted the amount of survey work that they have conducted within the region, with three offices in South Africa, and one in Walvis Bay, and announced a further office in Mozambique which is currently in the process of being opened.

In more remote areas, the transit to survey areas can take up to seven days.

Underwater Surveys activities include:

- Offshore surveys, particularly for oil and gas companies
- Dam surveys to determine the volume of water available
- Specialist support to the diamond mining industry

Underwater Surveys gave an example of their Capacity Building work with Mozambique which provided training in MBES procedures during port surveys.

The Chair asked if the data collected commercially was shared with the charting authorities and GEBCO, Underwater Surveys confirmed that under commercial obligation distribution was not permitted. The Chair recommended an increase in the agreements with licensing arrangements which allowed the primary charting authority to update their charting, as a minimum. A discussion on data sharing followed.

23. INDUSTRY PRESENTATIONS – NAVICO (session 7 of 9)

Mr Ivano Colombo (Data Sourcing Manager and HO relations) from NAVICO, provided a presentation entitled Industry - HO Partnership Serving all mariners which is available on the IHO website - SAIHC16-23.

NAVICO mentioned that C-MAP had recently joined NAVICO to provide marine cartography and navigational solutions. The main focus of the presentation was on the recreational market, and what industry can do for Hydrographic Offices as we share the same common goal - *To provide all mariners with accurate and adequately updated nautical data for the intended voyage.*

The Chair thanked NAVICO and added that the RENCs had been tasked at the last WENDWG meeting to investigate how to make data available to Industry whilst protecting the data. A short discussion on the Royalty models followed.

24. INDUSTRY PRESENTATIONS – iXblue (session 8 of 9)

Emmanuel Sgherri (Regional Sales Manager) from iXblue, provided a presentation entitled Hydrography Oceanography Geophysical - From shallow water to full ocean depth, which is available on the IHO website - SAIHC16-24.

iXblue highlighted the USV DriX to improve Hydrographic surveying with the USV platform and presented a case study. The USV DriX will also be used to support the increasing demand for High Resolution data.

The Chair thanked iXblue. There were no questions or comments.

25. EXPERIENCE IN DEALING WITH MARITIME DISASTERS IN RELATION WITH IHO GUIDELINES

The Chair reflected on the current hurricane in Florida and introduced Mozambique to present on the lessons learnt from Cyclone Idai.

Mozambique provided a presentation which is available on the IHO website - SAIHC16-15.1C.

The results of the cyclone Idai disaster were clear to see; the deadliest and costliest cyclone which killed over 1297 people and caused more than 2 billion USD in damages. Landfall occurred on 14th March 2019 in the northern vicinity of Beira, with winds of 165km/h; gusting up to 230km/h, and wave heights of approximately 10m.

Mozambique highlighted the main impact to the Mozambican Hydrographic Services as Beira, as Beira Port is the second most important port in Mozambique and serves as a gateway for export regionally and to the rest of the world. Along the Beira Port access channel, three buoys had drifted away, and were subsequently repositioned with the assistance of the Port and Railway Company. One buoy was damaged and removed for subsequent restoration and replacement.

Mozambique posed the following questions:

- What are the procedures to call for international support following a disaster?
- In order to minimize the impact, how do the different categories of cyclone impact on the different sectors?

Mozambique highlighted the following challenges identified post cyclone:

- Verification of possible obstructions along the Beira Port Access Channel
- INAHINA surveyed in 2018, as such it may be unsafe to edit charts based on the hydrographic data collected before the cyclone Idai
- Technical assistance is requested to update all bathymetric information in Beira Bay, a priority activity not only for the country but for the region as well.

Mozambique highlighted the following recommendations:

- To carry out Hydrographic Survey in the Bay of Beira, enabling the update of Nautical Charts of Beira Harbor (Issue of procedures to call for emergency)
- Capacity building of Mozambique and the Region on standard operation procedures to call for emergency, in events where the support from international community, or any other cooperation partner is of paramount importance.

The Chair confirmed that communication and coordination were key and that the faster surveys are processed, and the data made available the more we can utilise that data to support such disasters.

Portugal confirmed that they were not able to contact Mozambique one day after the cyclone and two days after they were advised that the Port of Beira was operational, Portugal confirmed that a more up-to-date survey would be performed in October 2019.

As NAVAREA VII, South Africa sent out a Met warning for cyclone Idai, post cyclone a message was sent out warning of possible underwater obstruction and then a warning was issued on the result of the cyclone, for shifting buoys and the significant impact posed to safety of navigation.

South Africa commended Mozambique in their efforts to communicate with the NAVAREA VII Coordinator during such a difficult time and thanked the UK for their efforts and highlighted the importance of communication to reduce the risk to the mariner.

The Chair mentioned IRCC11 Recommendation No. 19 to consider inviting MapAction to the RHC meetings and recommended engaging with MapAction in the future, as they provide bespoke maps on the ground for disaster areas.

The IHO Director advised SAIHC to consider developing a Disaster Response Framework which laid down bespoke guidelines for the SAIHC region with basic responses and procedures, this had already been established for the MACHC region and was currently being developed for the SWPHC region; the CB Coordinator volunteered to action this for the SAIHC region. India and South Africa offered to assist the CB Coordinator.

Action SAIHC 16 - 13, renumbered to Action 25 in Annex A: SAIHC Chair to consider inviting MapAction to attend SAIHC17. Deadline: 1 March 2020.

Action SAIHC 16 - 14, renumbered to Action 26 in Annex A: SAIHC CB Coordinator/India/South Africa to develop Disaster Response Framework for the SAIHC region. Deadline: SAIHC17.

26. INDUSTRY PRESENTATIONS - Fugro (session 9 of 9)

Mr Gavin Armstrong, Survey Coordinator from Fugro, provided a presentation, which is available on the IHO website - SAIHC16-26.

Within the SAIHC region, Fugro has offices in Cape Town, Angola and Mozambique.

Fugro highlighted their main achievements which included contributions to GEBCO Seabed 2030 project with the data collected from Fugro survey vessels as they transit between projects and Capacity Building with hydrographic surveying training, and recent developments with the new Rapid Action Multibeam Mapping System.

The Chair thanked Fugro.

The Chair closed Day 2 of Plenary with a request for all Member States to spend some time looking at the C-3 Red Book.

Thursday 5th September 2019, Day 3 of Plenary started with a warm round of applause in appreciation for Industry hosting the previous night's function, the Chair thanked AML Oceanographic, Chartwise, Fugro, iXblue, Kongsberg Maritime, NAVICO, Teledyne CARIS, and Unique Hydra, for the fantastic venue and Norway for maintaining the SAIHC swimming pool tradition.

The Chair moved agenda item **11 Actions and Recommendations arising from IRCC11**, to the beginning of Day 3 of Plenary.

IRCC11 Actions (relevant to SAIHC):

5. Report by the Secretariat

Action 1: RHC Chairs to confirm/update the representatives to the IHR Editorial Board (deadline: 30 August 2019).

The Chair confirmed this action complete for SAIHC; Tim Lewis is the SAIHC representative to the IHR Editorial Board.

6. Regional Hydrographic Commissions (RHCs)

6.1 RHC Reports

Action 3: ARHC, MBSHC and SAIHC Chairs to provide a brief history about their RHCs to be made available in the IHO website (deadline: 30 September 2019).

The Chair confirmed this action erroneous for SAIHC as it should read NIOHC.

7. Reports from IRCC Subordinate Bodies

i) IHO-IOC GEBCO Guiding Committee (IRCC11-0711)

Action 8: RHC Chair to request National Coordinators to review the contents of the relevant Annexes of the GMDSS Master Plan and IHO Publication C-55 – Status of Hydrographic Surveying and Nautical Charting Worldwide – to ensure consistency for their national entries (deadline: 30 July 2019)

The Chair confirmed that this had been covered during the Seminar, and discussions on C-55, and the GMDSS Master Plan would be covered during the IMO agenda item.

Action 12: RHC Chairs to consider the tasks listed as duties for the Regional Seabed Coordinator/Mechanism (doc. IRCC11-0713) and to include Seabed 2030 in RHC work plans and reports to IRCC (deadline: IRCC12)

The Chair confirmed that this action had been agreed during the GEBCO agenda item 7.1, to include the responsibilities of Seabed 2030 under the SAIHC MSDIWG.

8. Outcomes of the 2st Meeting of the IHO Council (C-2)

Action 13: RHC Chairs to provide reports to A-2 to the IHO Secretariat in accordance with the Action C2/53 (deadline: 15 November 2019).

The Chair confirmed he would draft a report to A-2 and circulate to SAIHC Members for comment before submission to the IHO Secretariat.

Action 15: IRCC Members to provide feedback on the draft Strategic Plan and on the implementation of the IRCC work programme to the SPRWG Chair (deadline: 24 June 2019).

The Chair confirmed that this action would be covered during the discussions for C-3.

Action 16: RHC Chairs to invite Members to make comments and suggestions to the Secretary of the S100 services roadmap drafting group (Council Chair, RDML Smith, shep.smith@noaa.gov) (deadline: 24 June 2019).

The Chair confirmed that this action would be covered during the discussions for C-3.

9. Inputs from Member States and other bodies affecting IRCC

Action 18: RHC Chair to invite Member States to contribute to update the "Maritime Services" Guidance.

The Chair confirmed that this action would be covered during the IMO agenda item.

IRCC11 Recommendations (relevant to SAIHC):

7. Reports from IRCC Subordinate Bodies

d) WEND Working Group (IRCC11-07D1)

7. Reinforce to Members States the fact that the one-year "clock" to resolve overlaps should begin once the overlapping issues, starting with the potential highest risk cases, have been reported to ENC producers (Resolution 1/2018 - IHO CL 19/2018 refers).

The Chair confirmed that this recommendation had been covered under SAIHC ICCWG and is still ongoing for the SAIHC region, however, there would be a concerted effort to resolve all outstanding overlaps within the region.

7. Reports from IRCC Subordinate Bodies

g) CSB Working Group (IRCC11-07G)

12. Encourage Member States to state their policy on data gathering restrictions within their maritime areas of jurisdiction, as requested in IHO CL 11/2019, to enable CSB activities to be undertaken;

13. Encourage Member States to support the CSB initiative with positive actions, such as requiring all research vessels collect bathymetric data for late uploading, when on passage or when it does not interfere with other research activities;

The Chair confirmed that these recommendations had been discussed during the CSB agenda item 7.2; SAIHC16 Action No. 15 raised.

Norway requested an action on the IHO Secretariat to provide an overview to the next SAIHC meeting on the feedback from IHO CL11/2019, Annex B. The IHO Director accepted the action to provide regional feedback on the status of IHO CL11/2019, Annex B. The Chair suggested including feedback in reports to A-2 for the SAIHC region.

Action SAIHC 16 - 15, renumbered to Action 27 in Annex A: IHO Secretariat to provide feedback on status of IHO CL11/2019, Annex B - Acceptance of Crowdsourced Bathymetry activities in National waters of jurisdiction, for the SAIHC region. Deadline: SAIHC17.

Action SAIHC 16 - 16, renumbered to Action 28 in Annex A: SAIHC Member States to include feedback from IHO CL11/2019, Annex B - Acceptance of Crowdsourced Bathymetry activities in National waters of jurisdiction, in country reports to A-2. (see SAIHC16 Action 14). Deadline: 15 December 2019.

7. Reports from IRCC Subordinate Bodies

h) FIG-IHO-ICA IBSC (IRCC11-07H)

15. Encourage Member States and submitting institutions to engage with the IHO Secretariat early on in the process of preparing submissions for programme recognition. Encourage Member States and submitting institutions to consult the Guidelines and the white paper (IHR-Nov-2017 - Article on "Maintaining the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers") in the process of preparing submissions for programme recognition.

The Chair confirmed that this recommendation related to nations looking to get their Cat “A” and “B” courses accredited, and were to note the IBSC recommendation for early engagement to ease the journey with the correct documentation. The IHO Director mentioned that Nigeria was far advanced in their journey for Cat “B” accreditation.

9. Inputs from Member States and other bodies affecting IRCC

20. Encourage Members to support the production S-100 showcase and S-100 products test bed platform.

The Chair confirmed that this recommendation would be further covered during the discussions for C-3, particularly regarding the timeline.

26. RHC Chairs to consider including an agenda item in RHC meetings to support to the IHR Editorial Board.

The Chair confirmed that this recommendation had been fully discussed and resulted in tasking UK to provide an article on surveying in remote locations - SAIHC Action No. 22; the Vice-Chair agreed to provide an article from South Africa on the development of SANHO hydrographic capability, once delivered, and Mozambique would consider providing an article on the Idai disaster.

Action SAIHC 16 - 17, renumbered to Action 29 in Annex A: South Africa to consider providing an article for IH Review on the development of SANHO hydrographic capability, when delivered. Deadline: SAIHC17.

Action SAIHC 16 - 18, renumbered to Action 30 in Annex A: Mozambique to consider providing an article for IH Review on the Idai disaster and the lessons learnt. Deadline: SAIHC17.

27. RELEVANT INTERNATIONAL ORGANIZATIONS’ REPORT (session 2 of 2)

27.1. International Maritime Organisation (IMO)

Captain Dave Muli, IMO, provided the IMO presentation, which is available on the IHO website - SAIHC16-27.1.

The IMO presentation covered the following topics:

- IMO as a UN Agency (SDGs)
- World Maritime Day Celebrations
- Organization Strategic Plan 2018-2022
- The IMSAS Progress Report
- Technical Cooperation (ITCP 2020-2022)
- The NSCR work on Safety of Navigation

IMO confirmed that Mauritius have a scheduled IMSAS audit in February 2020 and have asked IMO for technical assistance. There have been no responses from Namibia and Malawi for their scheduled IMSAS audits, which may be postponed. Angola and South Africa are scheduled for 2021, however, Mozambique has been postponed following the cyclones.

IMO as a specialised agency of UN has moved from assistance to cooperation, as national economic plans do not cover maritime issues, however this is beginning to change with the development of the Blue Economy for South Africa and Kenya, which UN agencies can support once included.

IMO highlighted the draft MSC circular on the procedure for the submission of documents containing proposals for the establishment of, or amendment to, ships' routing systems or ship reporting systems.

The IHO Director commented that the preparation for an IMO audit was the best opportunity for each Member State to ensure that all maritime role players get together, which in turn advertised the work of hydrography to secure more resources, and encouraged all to make the most of this process.

The Chair asked if there had been any common themes from a hydrographic perspective from the IMSAS audits, IMO confirmed 1) no one given mandate to carry out national regulations and 2) visit to department to check.

27.2. International Association of Lighthouse Authorities (IALA)

Mr Jacques Manchard, IALA, provided a presentation, which is available on the IHO website - SAIHC16-27.2.

IALA is organising a Diplomatic Conference at the end of February 2020 in Malaysia, where members of IALA are invited to sign the new statutes of IALA.

IALA made the following recommendations to the SAIHC16 participants:

- To be compliant with IMO Statutory Instruments
- To implement the action plans taking in account IALA WWA mission's report recommendations
- To ask IALA for CB and training support,
 - For example, when coastal states are preparing for or have undertaken the IMO audit process to meet items that have been raised within the audit, and also to share best practice
- To support IALA change of status
- To apply for IALA Membership
- To send participants to the IALA Technical Committees, to take benefits of the IALA membership, and increase the safety of navigation in their coastal States' waters
- To train AtoN and VTS staff to allow them performing the required tasks

The Chair commented on the power of the IALA training when linked with IHO Capacity Building efforts and how the synergy can deliver so much more and highlighted the strong link between IALA and the CB Coordinators. He requested that all Member States support the work of IALA and in doing so benefit from their expertise.

The Chair highlighted the importance of IALA, IMO, and IHO delivering and supporting as one.

The CB Coordinator requested that IALA makes the findings and recommendations available from each country following a mission to the IHO and CB Coordinator, to target and focus CB activities. IALA confirmed that this is covered in the TORs signed before each mission.

The IHO Director commented on the increasing success of combined technical visits incorporating the expertise of IALA to deliver a single report. IALA referenced the first common mission, involving IMO, IALA, and IHO, to Sudan, for which the global report should be available soon.

The SAIHC Chair took an action to note the recommendations in the IALA presentation.

Action SAIHC 16 - 19, renumbered to Action 31 in Annex A: SAIHC Member States to note the recommendations from the IALA presentation and act on them as applicable. Deadline: SAIHC17.

27.3. Southern and East African and Islands Regional Group for Safety of Navigation and Marine Environment Protection (SEAIGNEP)

Mr James Collocott, SEAIGNEP, thanked SAIHC for the invite and well-timed presentation slot following IMO and IALA. He conveyed the greetings and best wishes of Captain Karl Otto, SEAIGNEP Chair, who sadly was unable to attend. He then thanked Mr Tim Lewis for providing the SEAIGNEP update to SAIHC15 and congratulated the SAIHC Capacity Building.

Mr James Collocott, SEAIGNEP, provided a presentation, which is available on the IHO website - SAIHC16-27.3.

The Chair recommended that the SAIHC participants took notice of the penultimate slide of the presentation.

Assistance required from SAIHC15 participants.

Please convey the message back home of the importance:

- SEAIGNEP's Aims
- To keep SEAIGNEP "alive"
- Respond to the updating of the x2 Data Bases
- To find a host for SEAIGNEP6 in 2020
- To participate in SEAIGNEP activities
- To have the support of "high level of government"

Unfortunately, although the possibility of having a back-to-back meeting with SAIHC and SEAIGNEP was raised and discussed, this was ruled out as it was considered impractical as the role players are not the same.

The Chair reflected on SEAIGNEP being a sister organisation to SAIHC, and that for our region SEAIGNEP should be working alongside, IALA, IHO, IMO, to become "four delivering as one".

The CB Coordinator offered to assist SEAIGNEP and took an action to include SEAIGNEP in SAIHC activities.

Action SAIHC 16 - 20, renumbered to Action 32 in Annex A: CB Coordinator to include SEAIGNEP in SAIHC activities. Deadline: SAIHC17.

28. Maritime Safety, World-Wide Navigational Warnings Service and NAVAREA Coordination

Cdr Christoff Theunissen, South Africa, provided a presentation, which is available on the IHO website - SAIHC16-28.

The NAVAREA VII Coordinator made the following recommendations to the SAIHC16 participants:

- Angola, Mozambique, Madagascar and Iles Comores are encouraged to communicate MSI matters to the NAVAREA VII Coordinator in order to disseminate potentially hazardous matters to mariners operating in the relevant areas of interest.
- Members are invited to note the SAIHC 16-25 NAVAREA VII Report, as well as SAIHC 16-SA-Annex A-VII

SAIHC Member States were asked to fill in the details for their SAIHC MSI representatives on a list which was circulated during the NAVAREA VII presentation, the information provided would be used to further facilitate the CB training to address the shortcomings identified.

The CB Coordinator commented on the good progress being made and asked to share the presentation with the MSI course being held in Mauritius in October 2019, to coordinate activities, and suggested that the recommendations from the course were discussed to ensure some output.

India raised the issue of the cancellation of temporary notices, the NAVAREA VII Coordinator expressed his concern with this, stating that some temporary notices stay in force for years, as the loop is not closed.

The IHO Director highlighted the importance of the number of responses received from countries which are a good indication to the CB Coordinator for measuring the effectiveness of the MSI training and CB efforts in the region. He stressed that in order for the CB Coordinator to continue to secure the IHO funded MSI training for the SAIHC region, the benefits of the MSI course to the SAIHC region needs to be seen and requested that all countries receiving this training do their bit. The NAVAREA VII Coordinator reiterated the importance of completing the summary sheet on SAIHC MSI representatives.

South Africa requested that Portugal engage with Angola on MSI warnings.

Action SAIHC 16 - 21, renumbered to Action 33 in Annex A: SAIHC Member States to note the recommendations from the NAVAREA VII presentation and act on them as applicable. Deadline: SAIHC17.

Action SAIHC 16 - 22, renumbered to Action 34 in Annex A: Portugal to engage with Angola on MSI warnings. Deadline: SAIHC17.

29. SAIHC COMMITTEES AND WORKING GROUPS (session 3 of 3)

Southern African and Islands Chart Coordination Working Group Report (ICCWG8)

Alfons Van Craeynest, SAIHC ICCWG Chair, provided the report on the 8th ICCWG as a presentation, which is available on the IHO website under the 8th ICCWG Documents.

The Actions carried forward from the 7th ICCWG meeting, which were reviewed and amended by consensus, are included in Annex B.

Action SAIHC 16 - 23, renumbered to Action 35 in Annex A: SAIHC Secretary to allocate 3 hours for ICCWG in SAIHC Agenda. Deadline: SAIHC17.

Action SAIHC 16 - 24, renumbered to Action 36 in Annex A: SAIHC Member States to support resolving all ENC overlaps by A-2. Deadline: 21 April 2019.

Action SAIHC 16 - 25, renumbered to Action 37 in Annex A: UK to support ICCWG Coordinator in progressing the ENC scheme for the SAIHC region. Deadline: SAIHC17.

30. ANY OTHER BUSINESS

The Chair moved agenda item **9 SAIHC input to IHO meetings (Closed Session)** under AOB and decided to hold this closed session in open forum to include the rest of the plenary still present.

9.2. 3rd IHO Council considerations

The Chair referenced the C-3 Agenda and Red Book and acknowledged that this was an opportunity to determine as a Commission which points, we wanted to raise from a regional perspective for Captain Theo Stokes, as the SAIHC representative, to take forward to the 3rd IHO Council Meeting in October.

The Chair highlighted the following key topics of interest to RHCs:

- Strategic Plan
- Definition of Hydrographic Interest
- Roadmap for the S-100 Implementation Decade (2020-2030)
- Proposed Amendments to IHO Resolution 2/1997 - Establishment of Regional Hydrographic Commissions (RHC)
- Proposal for a Guaranteed Minimum Level of IHO CB Fund Share
- Proposal for Amendments to IHO Resolution 1/2005 - IHO Response to Disasters
- Preparation of IHO Work Programme and Budget for 2021-2023
- Proposal to Establish an “IHO Innovation and Technology Laboratory” situated in Singapore
- Preparations for the triennium of IHO centenary celebrations (IHO-100)

The definition of Hydrographic Interest generated some good discussions, as did the S-100 Implementation Decade which raised a number of concerns to be submitted to C-3, it was also recognised that Industry would play a big role in the S-100 Implementation Decade. It was acknowledged that the SAIHC region highly values the CB activities of the IHO.

The Chair and IHO Director encouraged all Member States to read the C-3 documentation.

Action SAIHC 16 - 26, renumbered to Action 38 in Annex A: SAIHC Member States to read the C-3 documentation, and refer to the C-3 presentation topics of interest to RHCs, to provide feedback for SAIHC region to SAIHC Secretary. Deadline: 30 September 2019.

There were no comments for Any Other Business.

The Chair confirmed that in discussing Agenda item 9.2 3rd IHO Council considerations, that both **9.1 SAIHC Report to IRCC12** and **9.3 2nd IHO Assembly considerations** had been covered.

31. APPROVAL OF THE ACTION LIST

The SAIHC Secretary presented the Actions carried forward from SAIHC15 and the new Actions from SAIHC16, which were reviewed and amended by consensus, and are included in Annex A.

The Chair confirmed that the Action List for SAIHC16 had been approved.

32. DATE AND VENUE OF THE NEXT MEETING

Mauritius confirmed that their Government had agreed to hosting the 17th SAIHC Conference in Mauritius and suggested the second week in September.

The Chair confirmed that the second week in September 2020 was clear in the IHO Calendar and proposed that the 17th SAIHC Conference would be held in the week commencing 7th September 2020, which was agreed.

Decision 32: The 17th SAIHC Conference will be held in the week commencing 7th September 2020.

33. ELECTION OF CHAIR AND VICE-CHAIR

Rear Admiral Tim Lowe confirmed that UK would be delighted to continue as Chair as it had been humbling to see the progress being made and opened the floor to any other nominations.

Captain Theo Stokes, South Africa, as the current Vice-Chair, announced that it was with much regret that South Africa is not available to continue as SAIHC Vice-Chair or be nominated as Chair.

The Chair thanked Captain Theo Stokes, South Africa and acknowledged that he would still be there to provide support in the background, and formally thanked him for all his support.

There were no further nominations for Chair.

The UK was re-elected with a warm round of applause as SAIHC Chair.

The Chair asked if there were any nominations for Vice-Chair, South Africa nominated Mauritius. Mauritius thanked South Africa, and humbly accepted the nomination. All were in agreement.

Decision 33: UK re-elected as Chair and Mauritius elected as Vice-Chair.

34. CLOSING REMARKS FROM THE CHAIR

The Chair handed over to the outgoing Vice-Chair to say a few words.

The Vice-Chair, Captain Theo Stokes, thanked the Chair for his support, and the guidance provided by IHO Director, Abri Kampfer, and the support from the SAIHC region. He highlighted the two main themes of the meeting, “Coordination, Collaboration, Cooperation” and “four delivering as one”, and looked forward to working with SAIHC in the future.

The Vice-Chair thanked Industry, and UKHO.

The Chair highlighted the following three words about data to enable our region and unlock the Blue Economy and contribute to the Decade of Ocean Science: Discoverable, Accessible and Available.

The Chair thanked IHO Director, Abri Kampfer for his knowledge and wisdom, and South Africa as Host, in providing an excellent venue and fantastic support, and for making us feel like part of the family. Special thanks were given to Ms Ruth Farre and her team, Esterina, Rijad, Kei and Vanessa for the high-level of support throughout, and to the SAIHC Secretariat, as he reflected on the effort in running one of these meetings.

The Chair also thanked Industry, acknowledging them as part of the SAIHC family, and the four delivering as one, IHO, IALA, IMO, and SEAIGNEP, which really helped to bring the whole thing to life.

The Chair asked Ruth and her team to pass on his thanks to the hotel. A final thanks was given to the participation and contributions from all to make it a really rich three days, and for everything that was being done for the SAIHC region. He encouraged all to continue working together so that the SAIHC region stays safe for mariners and adds value to the Blue Economy.

The IHO Director commended the Chair for the excellent conduct of the meeting and remarked that he had enjoyed the format of the meeting. He thanked Industry and requested for a round of applause for the SAIHC Chair for a very successful SAIHC meeting.

The Chair presented gifts to thank Captain Theo Stokes, Vice-Chair, and Ms Ruth Farre.

35. MEETING CLOSURE

The Chair then declared the 16th SAIHC Conference closed.

16th SAIHC CONFERENCE ACTION ITEMS

No.	Agenda Item	Action	Action By	Deadline
1	SAIHC14 - 3.4.1	Countries in the SAIHC region to provide capacity building inputs by end of February each year in accordance with capacity building procedures. (Note: Urgent requirements can be forwarded at any time or brought to SAIHC meetings).	SAIHC Member States	Ongoing
2	SAIHC14 - 3.4.4 and 3.4.5	Charting Member States requested to provide coastal bathymetric data and shallow/deep ocean bathymetric data collected to be forwarded by HO's to the IHO Data Centre for Digital Bathymetry (IHO DCDB). Feedback to be provided on progress at next SAIHC Conference.	SAIHC Member States	Ongoing
3	SAIHC14 - 3.4.9	Countries with PCA responsibility to offer assistance to nations preparing for the IMO audit process.	PCA	Ongoing
4	SAIHC14 - 3.4.9	Invite Members which are preparing for or have undertaken the IMO audit process to consider requesting support to meet items that have been raised within the audit, and also to share best practice.	SAIHC Member States	Ongoing
5	SAIHC14 - 3.4.13	The members of SAIHC were requested to consider submitting papers for publication in the Review.	SAIHC Member States	Standing Item
6	SAIHC14 - 3.4.6 and 3.4.14 and ICCWG6 Action 9	SAIHC Member States to provide new information and available survey data, and report changes that may affect safety of navigation in their national waters to INT Chart producer nations, to ensure that their responsibilities as required by SOLAS are met. Where another organisation conducts a survey on behalf of the coastal state, it is important to make the survey data available to the Primary Charting Authority in order to update charts for the area. The modalities of data sharing to be resolved bilaterally.	SAIHC Member States.	Standing Item
7	SAIHC14 - 6.5	All Member States and associated PCA to check relevant C-55 data and update as required. All Member States to check relevant P-5 entries, informing IHO Secretariat when either/or are complete.	SAIHC Member States and PCA	Ongoing
8	SAIHC14 - 6.6	Marine Disaster details, action on Member States to review and if necessary, update the contact details on the Marine Disaster spreadsheet, and to provide an alternative point of contact (if applicable) informing SAIHC Chair when complete.	SAIHC Member States and SAIHC Chair	31 October 2019
9	SAIHC15 - 13	SAIHC Chair to invite organisations to SAIHC17 to further develop Blue Economy within the SAIHC region for the hydrographic element.	SAIHC Chair	SAIHC17
10	SAIHC15 - 14	Angola to provide an update on MSI structure at next SAIHC and send MSI information to both Portugal and South Africa.	Angola	December 2019
11	SAIHC16 - 5	Mozambique to update next SAIHC on how they have overcome their internal communication issues regarding the coordination of MSI.	Mozambique	SAIHC17
12	SAIHC15 - 14	Comoros requested to improve communication with NAVAREA coordinator.	Comoros	December 2019
13	SAIHC16 - 7.1	UK to retrieve SHOM data from portal to include in generation of 100m grid for SAIHC region.	UK, SAIHC MSDI working group	31 October 2019

14	SAIHC16 - 7.2	Circulate IHO CL11/2019 - Call for Approval of Edition 2.0.0 of IHO Publication B-12 Crowdsourced Bathymetry Guidance Document, to SAIHC Associate Members. (see SAIHC16 Action 28)	SAIHC Secretary	30 September 2019
15	SAIHC16 - 7.2	SAIHC Members and Associate Members requested to inform SAIHC Chair and Vice Chair with indication of what CSB activity would be permitted in their EEZ and TTW. To enable discussion at C-3 and to inform CSBWG in October 2019.	SAIHC Secretary, SAIHC Member States	30 September 2019
16	SAIHC16 - 7.2	SAIHC MSDIWG to include Seabed 2030 activity and support in TOR.	SAIHC MSDIWG coordinator	During SAIHC16
17	SAIHC16 - 8.1	SAIHC Member at IHO Council to raise concern on CL11/2019 - Call for Approval of Edition 2.0.0 of IHO Publication B-12 Crowdsourced Bathymetry Guidance Document.	SAIHC Member at IHO Council	C-3
18	SAIHC16 - 8.1	SAIHC Member at IHO Council to raise concern at C-3 on the impact on NAVAREA Coordinators as a result of the expansion of Satellite services e.g. Iridium.	SAIHC Member at IHO Council	C-3
19	SAIHC16 -12	Marine Spatial Planning and National Oceans and Coastal Information Management System presentation from the Department of Environmental Affairs to be uploaded to SAIHC website.	SAIHC Secretariat	30 September 2019
20	SAIHC16 -13	SAIHC Member States are encouraged to explore the draft MSDI training material available on the SAIHC website and join the SAIHC MSDIWG to progress MSDI within the SAIHC region.	SAIHC Member States	SAIHC17
21	SAIHC16 -13	SAIHC Member States are requested to complete the SAIHC MSDI questionnaire, if not already completed.	SAIHC Member States	31 October 2019
22	SAIHC16 - 15.1G	UK to write an article for IH Review on the challenges of remote surveying in St Helena.	UK	31 January 2020 (for inclusion in the May 2020 Edition)
23	SAIHC16 -21	SAIHC CB Coordinator to reach out to SAIHC Member States following SAIHC16 to plan for training within the next IHO CB plan 2020 - 2023.	SAIHC CB Coordinator	31 October 2019
24	SAIHC16 -21	SAIHC CB Coordinator to show the realised benefit of IHO CB activities attended by SAIHC Member States, to feed into the regional plan.	SAIHC CB Coordinator	SAIHC17
25	SAIHC16 -25	SAIHC Chair to consider inviting MapAction to attend SAIHC17.	SAIHC Chair	1 March 2020
26	SAIHC16 - 25	SAIHC CB Coordinator/India/South Africa to develop Disaster Response Framework for the SAIHC region.	SAIHC CB Coordinator/ India/South Africa	SAIHC17
27	SAIHC16 - 11	IHO Secretariat to provide feedback on status of IHO CL11/2019, Annex B – Acceptance of Crowdsourced Bathymetry activities in National waters of jurisdiction, for the SAIHC region.	IHO Secretariat	SAIHC17
28	SAIHC16 - 11	SAIHC Member States to include feedback from IHO CL11/2019, Annex B – Acceptance of Crowdsourced Bathymetry activities in National waters of jurisdiction, in country reports to A-2. (see SAIHC16 Action 14)	SAIHC Member States	15 December 2019
29	SAIHC16 - 11	South Africa to consider providing an article for IH Review on the development of SANHO hydrographic capability, when delivered.	South Africa	SAIHC17

30	SAIHC16 - 11	Mozambique to consider providing an article for IH Review on the Idai disaster and the lessons learnt.	Mozambique	SAIHC17
31	SAIHC16 - 27.2	SAIHC Member States to note the recommendations from the IALA presentation and act on them as applicable.	SAIHC Member States	SAIHC17
32	SAIHC16 - 27.3	CB Coordinator to include SEAIGNEP in SAIHC activities.	CB Coordinator	SAIHC17
33	SAIHC16 - 28	SAIHC Member States to note the recommendations from the NAVAREA VII presentation and act on them as applicable.	SAIHC Member States	SAIHC17
34	SAIHC16 - 28	Portugal to engage with Angola on MSI warnings.	SAIHC Member States	SAIHC17
35	SAIHC16 - 29	SAIHC Secretary to allocate 3 hours for ICCWG in SAIHC Agenda.	SAIHC Secretary	SAIHC17
36	SAIHC16 - 29	SAIHC Member States to support resolving all ENC overlaps by A-2.	SAIHC Member States	21 April 2020
37	SAIHC16 - 29	UK to support ICCWG Coordinator in progressing the ENC scheme for the SAIHC region.	UK	SAIHC17
38	SAIHC16 - 30	SAIHC Member States to read the C-3 documentation and refer to the C-3 presentation topics of interest to RHCs, to provide feedback for SAIHC region to SAIHC Secretary.	SAIHC Member States	30 September 2019

8th ICCWG ACTION ITEMS

No.	Agenda Item	Action	Action By	Deadline
1	ICCWG6 - Action 4	ICC-WG Coordinator to contact Russia and Australia to resolve ENC overlap	ICC-Coordinator	Ongoing.
2	New action based on ICCWG6 - Action 7	To define ENC scheme for SAIHC Region H.	ICC-Coordinator	Ongoing.
3	ICCWG6 - Action 8	Suggested trial teleconference	ICC-Coordinator	Ongoing.
4	ICCWG6 - Action 10	INT 7582 – is to be removed from S11 and the chart is to become INT 7583 (new INT number). A copy of this chart needs to be circulated to the members for comment and will be pending until this is done.	SAIHC Member States	INT 7582 removed from S-11. Ongoing.
5	ICCWG6 - Actions 11 and 12	INT 7631 and INT 7632 - ongoing discussions between UK, MZ and PT. New survey data is awaited, and this will affect buoyage's and chart limits (which still need to be confirmed).	UK, Portugal, Mozambique	Ongoing.
6	ICCWG6 - Action 13	INT 7645 – the Scheme has been proposed and is in process. As soon as the limits have been established, they are to be forwarded to the chairman for inclusion in S11.	PT/MZ	Ongoing.
7	SAIHC15 - ICCWG 3.4	Member States to feedback comments on how CATZOC is to be used to DQWG.	Member States	Ongoing.
8	SAIHC15 - ICCWG 7.1	UK, Tanzania, Kenya, and India to coordinate ENC requirements to provide the latest data in a carriage compliant product for the Mariner and report back to ICCWG coordinator.	UK, Tanzania, Kenya, India	Ongoing.
9	SAIHC15 - ICCWG 3.2	India and UK to confirm when overlaps with GB ENCs have been removed in Seychelles, Tanzania and Mozambique	India and UK	Ongoing.

SAIHC16 LIST OF PARTICIPANTS

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SAIHC Membership Status

Member State	SAIHC Member	SAIHC Associate Member	IHO Member	Non-IHO Member
France				
Mauritius				
Mozambique				
Norway				
South Africa				
Seychelles				
United Kingdom				
Angola				
Comoros				
India				
Kenya				
Madagascar				
Malawi				
Namibia				
Portugal				
Tanzania				