



13th Meso American & Caribbean Sea Hydrographic Commission Meeting

19th – 22nd November 2012

Antigua, Guatemala

Minutes

1. Opening

1.1 Opening Remarks by Hosts

Captain de Navio Demn, Tyrone Rene Hidalgo Cacera, Commander Naval del Pacifico welcomed the IHO, COCATRAM, MACHC members and participants for travelling to Guatemala for the meeting. Originally a Mayan country and now Antigua is a green city surrounded by volcanoes. This year in Guatemala it is the year of humanity; to find new horizons and this fits with hosting this prestigious meeting.

He welcomed the delegates to the “country of eternal spring time”.

1.2 Opening Remarks by the Chairman

Rear Admiral Nick Lambert (UK) thanked delegates for attending, for the work conducted throughout the year and productive industry and working group interactions prior to the meeting. He thanked Guatemala DGAM for hosting for the 13th MACHC and for making such comprehensive meeting arrangements.

He thanked Suriname for their support as vice chair and feels confident that the good work of the commission will continue under their chairmanship: he welcomed Trinidad and Tobago and Nicaragua to the meeting along with the observer organisations; their presence will enhance the effectiveness of the meeting and ensure wider regional cooperation.

Admiral Lambert took the opportunity to remind delegates that active participation is their chance to develop regional cooperation and contacts. On a final note it will be the chairman’s last conference before he retires from the Royal Navy after 36 years and could find no better finale to his career.

1.3 Opening Remarks by the President of the IHB

IHO President Robert Ward offered his congratulations to Guatemala on hosting a conference of this size and complexity. The level of interaction observed prior to the meeting in both the industry session and working groups indicates a platform for the MACHC to achieve much during the week.

IHO Regional Hydrographic Commissions (RHCs) were setup to promote the coordination of regional hydrographic activities specific to the region; many topics surrounding this have been discussed already and President Ward hopes that practical and pragmatic solutions can be found to issues.

The wide participation of regional and international organisations and industry within the plenary is encouraging as they too have a role to play in the region and can input a global view on issues.

The MACHC is an exciting Commission and has a plan to make things happen. MS should be very proud of how far it has come and can be used as a role model for other regions but should not rest on its laurels as there is much more to achieve.

1.4 Address by Chief Guest

Vice Admiral Carlos Lainfiesta Soto, Commander, Marina de la Defensa National addressed the meeting and welcomed the delegates to Guatemala. The hosting of the 13th MACHC meeting on behalf of the government is a unique experience set within the wonderful backdrop of Antigua.

Mariners throughout history have used the oceans to explore and utilise resources; many lives were lost and the topic under discussion is to assist exploration whilst saving lives. We ensure they can navigate safely and securely; the increase in leisure use ensures there is still much work to be done. He encouraged delegates to continue their good work, have a productive meeting and ensure the goals of the Commission are achieved.

1.5 Agenda and Timetable approval ¹

The Chairman introduced the Draft Agenda (MACHC13-01a) and Timetable (MACHC12-01b) and Members adopted the documents.

MS were asked if they approved the Secretariat to have an audio recording of the meeting that would be used to assist production of the minutes; no objections were recorded. The recording will be deleted after the minutes are accepted at the 14th MACHC.

1.6 List of Documents

The Chairman commented that delegates were expected to have downloaded the documents from the IHO Web site, as shown on the List of Documents (MACHC13-01c) and have brought them to the meeting.

1.7 Administrative Arrangements

The meeting was held at the Soleil La Antigua Spa and Convention Centre Hotel, La Antigua Guatemala, Guatemala.

A brief outline was given on the administrative arrangements of the meeting. A list of participants of 13th MACHC meeting is placed at Annex A.

2. 12th MACHC Minutes approval

Member States confirmed that minutes of the 12th MACHC (MACHC13-02) were a true reflection of proceedings at that meeting.

3. 12th MACHC Actions List review

Outstanding Actions from MACHC 12 are included in the list of actions from MACHC13 and crossed referenced back.

¹ All documents and presentations from the 13th MACHC can be found on the IHO MACHC13 website.

Action	Agenda Item	Agreements	Responsible Party	Due Date	Status
General:					
12.1.1	11	MACHC Members should provide update information to IHO C-55 publication and update it at least once a year, reporting this action in the National Report	MACHC Members	Permanent	On going
12.1.2	3	The Commission accepts IHB proposal to post the main documents of its meeting on the IHB website and keep the discussion documents on the website managed by NOAA.	Secretary / IHB	Permanent	On going
12.1.3	6.2	The Commission to consider using one website for MACHC documentation. The Chair to circulate a proposal to achieve this.	Chair	By 31st March 2012	NOAA/IHB to discuss options. Report by end of MACHC13, on solution
12.1.4	3	FR/VE to pursue discussions on bilateral agreement for data exchange in accordance with TR A3.4 (co-production, distribution of REPROMATS, etc.)* (*) This Resolution is related to Resolutions numbers 10-19, 10-38, 10-39, and 10-51 of the 10th MACHC	France/Venezuela	By 13th MACHC Meeting	Complete
12.1.5	3	NL/VE to pursue discussions on bilateral agreement for data exchange in accordance with TR A3.4 (co-production, distribution of REPROMATS, etc.)	Netherlands/Venezuela	By 13th MACHC Meeting	On going see para 7.1.3 additional Action Item
12.1.6	10	The Commission agreed to establish a Meso-American and Caribbean Marine Economic Infrastructure Programme Working Group (MACMEIP-WP). The MEIP-WG will be tasked with producing the Terms of Reference/Rules of Procedure and circulating them to MACHC MS for comment.	Volunteering MACHC Members and Industry representatives.	By 28th February 2012	Complete MACHC CL 06-2012
12.1.7	12	The Chair to send a letter to IHB encouraging the IHO to consider producing surveying specifications for Satellite Bathymetry and Crowd sourcing data.	Chair	By 31st January 2012	Complete - IHB encouraged use of S44 to satisfy Satellite Bathymetry and Crowd sourcing surveying requirement.
12.1.8	9	MACHC Member States to include 'sharing experience in dealing with maritime disasters' as a standing MACHC agenda item.	Chair	Permanent By 13th MACHC Meeting	Complete Included in MACHC13 agenda, reports by Jamaica and US
12.1.9	7	Working Group Chairs and Chart Committee Coordinators are encouraged to produce quarterly reports.	WG Chairs and ECC & ICC Coordinators	Permanent Quarterly	On Going

Action	Agenda Item	Agreements	Responsible Party	Due Date	Status
12.1.10	11	ECC & ICC Coordinators to liaise and plan/organise their work flow in line with agreed Meso-American and Caribbean International Chart Coordinating Working Group (MACICCWG) Terms of Reference (ToR).	ECC & ICC Coordinators	Permanent By 13th MACHC Meeting	On Going as MICC
Capacity Building:					
12.2.1	3	The Commission takes note of Jamaica's comment on CB matters of the necessity to have, besides training, an effort on technical capacity – equipment and survey's platforms – and also the IHB suggestion on to promote events on means to attain support to improve the hydrographic capacity, and requests the CB coordinator to take the appropriate action accordingly with the guidelines of the approved CB Plan.	CB Coordinator	By 13th MACHC Meeting, depending on priorities	The CBSC are commencing a review of the CB strategy which will doubtless include Jamaica
12.2.2	3	CB coordinator will review Global Environmental Facility projects (VIA THE GEF WEBSITE) to assess if there are other projects in the region that could be leveraged for CB support, as was done for the Gulf of Honduras Project.	CB Coordinator	By 13th MACHC Meeting, depending on priorities	On Going GoF meeting at MACHC13
12.2.3	3	The CB Coordinator should work in close liaison with the adjacent Regional Hydrographic Commissions, including the EAtHC.	CB Coordinator	Permanent	On Going Brief to be provided to MACHC delegates
12.2.4	6.4.2	CB coordinator to prepare a paper on hosting CB training in region and produce a 'how to host CB training' guide.	CB Coordinator	By 30th Jan 2011	Complete
12.2.5	6.4.2	Antigua to produce a local report on the Antigua CB Course	Antigua	By 30th Jan 2012	Complete
12.2.6	6.4.5	The CB Plan should be reviewed at the next Commission meeting. The following Member States will take part on the revision: A&B, BR, FR, NE, K&N, UK, with the collaboration of the PAIGH observer. The 2012 revision should have a long term plan (5 years) and consider: 1. Assessment of the CB progress made by MACHC to date, against the IHO CB Strategy and CB Work Program performance indicators; 2. Maintenance of the agreed MACHC CB Plan; 3. Consider to hold hydrographic trainings courses in venues where data updates are needed and take the opportunity to conduct the practical activities to get the required data; 4. Refine the action plan (against the IHO CB Strategy and CB Work Program performance indicators again) and in accordance with Member States priority requirements; 5. Prepare a job description for a consultant to address CB issues; and prepare technical specifications for a master plan for the Region;	CB Coordinator	Permanent By 13th MACHC Meeting	In Progress 1-4 and 6 Complete Item 5 not implemented yet

Action	Agenda Item	Agreements	Responsible Party	Due Date	Status
12.2.6 cont....	6.4.5	6. If this Strategy is approved by MACHC Member States, a proposed roadmap for the implementation of this new Strategy to be drafted by MACHC CB Coordinator to be submitted for consideration by the CBSC.	CB Coordinator	Permanent By 13th MACHC Meeting	In Progress 1-4 and 6 Complete Item 5 not implemented yet
12.2.7		MACHC Chair to send a letter to Dominican Republic and Guyana with a copy to the IMO representative in the Region, notifying the intention to pay a Technical Visit in conjunction with the IHB, and asking for possible obstacles.	CB Coordinator	By 31st January 2012	Complete Dominican Republic visited Sep '12, Guyana to be arranged
12.2.8		Netherlands HO to liaise with Chair Organisation of East Caribbean States (OECS) to develop proposals for the establishment of regional deployable survey capability in 2012 for MACHC Members, Associate Members and non-Members.	Netherlands HO	By 31st August 2012	To be completed before MACHC 2013 See also para 8.5 as the level 2 work item for an OECS hydrographic service
12.2.9		CB Coordinator to seek opportunities to build on the 'Haiti Hydrographic Surveying and Nautical Charting Workshop' of September 2011, in conjunction with the CBSC Chairman and IHB.	CB Coordinator	By 13th MACHC Meeting	Meeting during MACHC13
12.2.10		CB Coordinator to send Letters to MS about requesting technical visits - St Kitts, etc	CB Coordinator	By 31st January 2012	Complete

Electronic Chart Committee (ECC):

12.3.1		MACHC ECC to continue to monitor and update Region B, Atlantic side, ENC scheme for all Usage Bands, per the timetables indicated in Annex A of MACHC ECC report.	MACHC ECC Member States	By 13th MACHC Meeting	On Going
12.3.2		MACHC ECC monitors and updates Region B, Pacific Ocean side, ENC scheme for all Usage Bands, per the timetables indicated in Annex A.	MACHC ECC Member States	By 13th MACHC Meeting	On Going
12.3.3		MACHC ECC to explore options to provide a means to depict ENC schemes on a webpage, as a pilot project. The display should be interoperable and appropriate for GIS applications. Additionally, MACHC Member States should find it easy to update their ENC coverage.	MACHC ECC Member States	By 13th MACHC Meeting	On Going
12.3.4		As a permanent task, MACHC Member States are invited to provide the ECC with their ENC production plans taking into account: - IMO requirements for mandatory carriage and priority regional ports; - the availability of adequate survey data for ENC production (keeping in mind that, in some areas, hydrographic offices may not produce ENCs if data are out - of - date or not compliant with S - 44 standards); - the need to address national overlaps and consistency for all Usage Bands.	MACHC Member States	By 13th MACHC Meeting	On Going

Action	Agenda Item	Agreements	Responsible Party	Due Date	Status
12.3.5		ECC to provide an updated report to 13th MACHC and MACHC Chair is invited to provide this report to the IHB as the region's contribution to global ENC coverage so that it may be conveyed accordingly to the IMO.	ECC Chair	By 13th MACHC Meeting	Verbal report provided to MACHC chair on status of coverage
12.3.6		In order to create the IHO worldwide ENC database, all ENC producers are encouraged to make their ENCs available to the RENCs, even if they are also distributed by different channels.	MACHC ENC producers	By 13th MACHC Meeting	On Going
12.3.7		If Member Countries are unable to complete their ENC coverage, the MACHC, in partnership with appropriate authorities, should consider options to address this situation, in accordance with the IMO ECDIS Requirements and WEND principles.	Appropriate MACHC Member States	By 13th MACHC Meeting	On Going
12.3.8		If MACHC Member States are unwilling either to distribute ENCs or to have another country produce for them, the MACHC Chair will inform the Inter-Regional Coordinating Committee (IRCC). The IRCC will take appropriate action with the WEND Working Group, the IHB, and IMO.	Appropriate MACHC Member States	By 13th MACHC Meeting	On Going
International Chart Committee (ICC):					
12.4.1	6.2	INT Chart Coordinator to update MACHC web site INT Chart data base.	INT Chart Comm. Chair, UK, US, & Cuba	By 13 MACHC Meeting	On Going There is a work in progress using GIS, developed by USA.
12.4.2	6.2	The INT Chart Committee should produce an INT Chart Plan which should include the Pacific Area of the region, and consider using national charts of the UK and US as interim products for future production of INT Charts. A framework should be presented for the Committee work for the MACHC intersectional period.	INT Chart Comm. Chair, UK, US & Cuba	By 13th MACHC Meeting	On Going Mexico gave the limits of the charts. UK and Colombia will provide the limits of the pacific coast charts so as to be inserted in GIS.
12.4.3	6.2	Cuba proposed that INT Chart 4017 be produced by another hydrographic service. US offered to produce this chart. Cuba also offered to pass relevant data to the INT chart producer of chart 4021.	US & Cuba	By 13th MACHC Meeting	Confirmation of transfer of 4017 to U.S. NOAA still awaiting Cuban confirmation. No data was made available by Cuba yet for Chart 4021 (US/NGA).

Action	Agenda Item	Agreements	Responsible Party	Due Date	Status
12.4.4	6.2	The ICC Chair shall send to the Secretary the updates regarding the INT Charts of Venezuela that have changed (see Action 11-46). Members States must send their updated data to the Secretary, include US information regarding INT Charts 4015, 4016, 4145, 4146, 4147, and 4148.	ICC Chair, MACHC Members and Secretary	By 13th MACHC Meeting	Complete Discussed on Tuesday at the meeting of the MACCIWG.
12.4.5	6.2	The current limits of the INT Charts 4100 and 4102 shall be maintained . Venezuela will confirm the limits of the new INT Charts, as proposed: 4102A, 4104, 4106, 4108, 4110 and 4112.	ICC Chair, Venezuela	By 28th Feb 2012	Complete Venezuela sent the limits informally to ECC technical coordinator, are also going to transmit it officially.
12.4.6	6.2	Cuba requested the cooperation of UK, USA, France and Mexico for the production and updating of the INT Charts 4149, 4154, 4158, 4166 and 4170.	Cuba, France, Mexico, UK, US	By 13th MACHC Meeting	On going Cuba needs to be contacted so as to check which country should be responsible for which chart.
12.4.7	6.2	Cuba proposed that the USA maintain updating the INT Chart 4149 and becomes responsible for production of this chart.	Cuba, US	By 13th MACHC Meeting	Complete U.S. accepted production responsibility, but no clear way to receive data from Cuba.

4. IHO / IHB Matters

The chair thanked the hosts Guatemala for a wonderful reception and cultural evening they provided for delegates.

4.1 IHB Report

See MACHC13-04a for full report.

IHO President Robert Ward commented on the change of directors at the IHO and how well they have gelled into a team with common goals. The IHO has managed to secure increased ability for diplomatic lobbying through the Government of Monaco to raise the profile of hydrography in MS governments.

The funding of Capacity Building (CB) is of major concern and the IHO have approached the UN/IMO to create one source for funding; many large flag states will not join the IHO but their vessels benefit from it continually and a solution needs to be found.

MS were requested to confirm with their governments the status of the “Ratification of the protocol of Amendments” and approval of applications for IHO membership (Actions 13.1.8 and 13.1.9).

IHO CL51-2012 requesting the provision of ENC's to the IHO – many MS have expressed concern with regard the intended use. President Ward clarified that they would be used as per a vessel in an encrypted format and only for IHO reference when enquiries are received. The cell metadata would also be used to update the IHO ENC catalogue which is meant to be the authoritative source for ENC coverage but is sadly out of date. Hopefully many MS that had not provided a response to the CL would now take this information back to their organisations and progress a response.

MS were reminded of the International Hydrographic Review (IHR) and that if they feel they have a suitable topic for inclusion forward to the MACHC IHR member (UK).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.8	4.1	Letter from Chair to encourage MS yet to ratify Protocol of Amendments to press their government for response	Chair	End Jan 2013 (Completed)
13.1.9	4.1	Letter from the Government of Monaco via IHO to encourage MS yet to ratify pending applications for IHO membership and to press their government for a response.	IHO	End Jan 2013

4.2 MACHC report to IRCC4 (Inter Regional Coordination Committee)

Rear Admiral Nick Lambert (UK) briefly gave an overview of the report to IRCC4 held in Singapore in June 2012. He highlighted:

- High level of MS attendance and participation in region
- Relevant Organisations attendance and participation
- Work done by the active working groups
- Stakeholder and Industry participation
- MEIP within the region

MS were asked that during the week they think of topics for the chair to take to IRCC5 e.g. Inviting chairs of similar commissions, work done on “Blue Economy”, other groups to invite to meetings to encourage wider participation.

For a copy of the full report see the IHO IRCC webpage.

4.3 IRCC4 Report

Jeff Bryant (UK) provided an introduction to IRCC to delegates and summary of the last IRCC meeting. A copy of the report can be found on the IHO MACHC13 website.

Two themes from IRCC4 are:

- Performance indicators
- Projects and collaboration

It is evident that the IRCC is refining its purpose and will with the new chair (Canada) become a driving force for regional cooperation.

The list of actions from IRCC4 relevant to MACHC region are listed in the table below; comments in red are the status within MACHC post 13th meeting:

No	ACTION	RESP.	DEADLINE	STATUS
IRCC4/01	Encourage the approval of pending applications for IHO membership.	RHCs Permanent	Report to IRCC Chair Dec 2012	Ongoing <i>Letter by Monaco Gov. Via IHO to encourage approval.</i>
IRCC4/03	Continue to engage suspended Member States in their region to encourage their re-insertion in IHO. <i>(MACHC – Dominican Republic)</i>	EAtHC and MACHC Permanent	Report to IRCC Chair Dec 2012	Ongoing <i>Technical visit carried out to and letter of encouragement sent to encourage attendance</i>
IRCC4/06	Comply with the CBSC Procedures and ensure the timely provision of the appropriate documentation that justify expenses associated to CB projects, and to demand refund, if needed, not later than one month after the event has finalized.	RHC	Permanent	Ongoing <i>Completed by CB coordinator after each CB project</i>
IRCC4/07	Invite GEBCO Guiding Committee /Bathymetric Regional Project Chairs to attend corresponding RHCs meetings, aiming at strengthening collaboration with a priority on improving high resolution shallow water bathymetry at the regional level.	RHCs / GEBCO	Permanent	Completed <i>IBCCA represented at MACHC</i>
IRCC4/08	a) Circulate draft C-55 framework developed by Australia. b) RHCs to provide comments to Chair. c) Chair to provide final version to IHB	a) Chair b) RHCs c) Chair	a) 15 June b) end June c) 15 July	a) Completed b) In progress <i>Agenda item 4.8.1 at MACHC13</i>
IRCC4/09	Consider amending Statutes of the RHCs in order to allow non-IHO MSs to host RHCs conferences, when and if applicable.	RHCs	As soon as applicable	Completed <i>Agenda item 5 at MACHC13, considered but already in statutes.</i>
IRCC4/13	Provide written feedback on Annexes B and C of WEND Principles (CONF.18/WP3) according to 18th IHC Decision 13	RHCs		<i>WEND-WG rep. will provide for region post meeting</i>
IRCC4/17	Circulate the paper "A Blueprint for Ocean and Coastal Sustainability" to RHCs to be used as a raising awareness tool.	Chair RHCs	As soon as practicable	Completed <i>MACHC13-09 and discussed at MACHC 13</i>
IRCC4/18	Provide the IRCC Chair with their report on the progress of the relevant tasks of the IHO 2012 Work Programme.	RHCs and IRCC subsidiary organs	by the end of Jan 2013	<i>Chair will provide for region post meeting</i>
IRCC4/20	Review the relevant tasks of the IHO 2013 Work Programme in their respective work plans and report on suggested updates, if any, to the IRCC Chair	RHCs and IRCC subsidiary organs	by the end of Oct 2012	<i>Chair will provide for region post meeting if applicable</i>
IRCC4/27	Inform MSs of the IMO's transition to and the implication of the mandatory IMO Member States Audit Scheme from 2015	RHC Chairs	As soon as possible	Completed <i>MS informed at MACHC12</i>
IRCC4/30	Consider the participation of the stakeholders at the RHC conferences	RHC Chairs		Completed <i>Stakeholders attending MACHC conference</i>
IRCC4/32	Provide to the IRCC Chair the estimated values of SPIs and agreed WPIs as of 31 December 2012 and target values for 31 December 2017	RHC Chairs	by the end of Jan 2013	<i>Chair will provide for region post meeting if applicable</i>

4.4 WEND-WG Report (Worldwide ENC Database – Working Group)

Kathryn Reis (US, NOAA) provided an update on the work of the Worldwide ENC Database Working Group (WEND-WG). The WEND-WG encouraged the RHCs to take the lead on the reduction of gaps and overlaps of ENC's in their region – the MACHC MICC (previously MACICCWG) is already working on this issue and has reduced both considerably in the region.

WEND-WG has been looking to amplify the WEND guidelines and there will be a link on the IHO webpage once they are drafted. Katie encouraged MS to review the wording of the guidelines when they are distributed by the IHO and to respond accordingly to the circular letter even if they are yet to produce ENC's (Action 13.1.10).

The WEND-WG has also been looking at a risk assessment template for assessing overlaps between ENC cells that have navigationally significant data – it has been decided that service providers are not able to sort out overlap problems and it should be for MS to resolve either by formal or informal arrangement.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.10	4.4	MACHC MS are encouraged to respond to the circular letter on WEND-WG revised guidelines when distributed	MACHC IHO Member States	

4.5 HSSC4 Report (Hydrographic Services and Standards Committee)

IHO President Robert Ward updated MS on the latest HSSC meeting, the main topics highlighted were:

- Stakeholders forum for technical experts with very active engagement to encourage the use of skills not currently within IHO and to highlight technical issues.
- S-100 – interest in wider marine domain for S-10x standards which places great responsibility on the IHO to maintain the S-100 standard.
- ENC CATZOC to be looked at and improved for S-101 as mariners confused in S-57.
- S-32 (IHO Dictionary) – MS strongly encouraged to participate especially from Spanish speaking countries to ensure definition is not lost in translation.
- MS should consider how to participate in the HSSC programme as the work is vital to the future of hydrography.

4.6 Marine Spatial Data Infrastructure (MSDI)

This was covered under MEIP (7.3) and it was noted that the MSDIWG has been reinvigorated by a new chair. MS were advised to view the IHO MSDIWG web pages for plans, progress made and to think about how they could participate in the development of MSDI.

4.7 IHO Year Book P-5

P- 5 is the authority source for points of contact from each country. Current P-5 entries were circulated to MS in attendance; they were asked to check the data and return any amendments to the IHB prior to completion of the conference.

4.8 Status of Hydrographic Surveying and Nautical Charting Worldwide C-55

MS were encouraged to include an update on C-55 to the IHO even if the data has not changed since the last update so the IHO can update the date of data (Action 13.1.11).

It was proposed that C-55 would be included into the MICC work to provide an update for the region; agreed by MS.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.11	4.8	MACHC Members should provide update information to IHO C-55 publication and update it at least once a year, reporting this action in the National Report	MACHC Members	Permanent MACHC14

4.8.1 Development of C-55

MS discussed the action 08 proposed by IRCC4 that they provide comments on the draft C-55 framework provided by MACHC12-04c. The IHB provided a demonstration on their development of C-55 within the Hydrographic Commission on Antarctica (HCA) in which they organise paper products, ENCs, surveys and tide gauges in a single GIS. MS asked for the target audience this GIS is based at, it is primarily aimed at the IHB to enable generation of S-11 and other products but also aid coordination of HCA survey work for MS and other authorities.

5. Statutes

MS discussed the action 09 proposed by IRCC4 that they “Consider amending Statutes of the RHCs in order to allow non-IHO MSs to host RHCs conferences, when and if applicable”. It was judged that the current statutes (2009 version) allow for non-IHO MS to host and consequently no change to the statutes was required.

6. National Reports

Member States provided the meeting with summaries highlighting salient aspects of their National Reports. The full National Reports can be accessed on the IHO website.

There were a number of recurrent themes that developed from the presentations:

- The need for Capacity Building training and equipment
- CB in Spanish as well as English
- Improving the awareness of hydrography – possibly through the Blue Economy
- Central America regional project similar to OECS initiative

National reports and presentations can be found on the IHO MACHC website.

7. MACHC Committees and Working Groups

The Reports will be compiled under Docs MACHC13-07, identifying the body to which the report refers.

Discussions took place on the possible use of Satellite Bathymetry as discussed at MACHC12. The UK and France have progressed the potential use of this data within products within the region with

further work to be completed; Mexico and US wish to be kept abreast of this work and points of contact within the four nations should be established (Action 13.1.12).

Committee chairs were encouraged to produce quarterly reports to update MS on their progress (Action 13.1.13).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.12	7	France, Mexico, UK, US to provide point of contact to review progress and work on assessing the viability of satellite Bathymetry and liaise on trials such as in Antigua	France, Mexico, UK, US	End Jan 2013
13.1.13	7	Committee Coordinators are encouraged to produce quarterly reports.	Committee Chairs	Permanent Quarterly

7.1 Meso-American and Caribbean International Charting Coordination Working Group (MACICCWG)

Discussion took place at the working group with regards the groups name; historically the MACHC has had committees rather than working groups and the MACICCWG is a somewhat cumbersome name. The members of the working group proposed that the MACICCWG be renamed to the MICC (MACHC Integrated Charting Committee); this was agreed by MS in plenary. The committee amended the ToR and RoP to reflect the name (Action 13.2.18) and included in Annex B.

7.1.1 Establishment of Coordinator and Vice-Coordinator

John Nyberg (US) was chosen as the coordinator (chair) with Paulo Matos (Brazil) as vice coordinator (vice chair) . The MACHC Chair thanked the outgoing MICC chair (Katie Ries, US) for all her hard work over the past years as chair; the excellent progress of the committee is an example to other RHCs.

7.1.2 Proposed structure and work plan

The structure will be based on development of INT charting and ENC's essentially two sub committees but with interaction of all participants of the MICC. The work plan has been laid out within the actions provided in 7.1.3.

7.1.3 Development of a work plan.

The work plan was produced and actions drawn up for work in the next 12 months.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.2.1	ENC	MICC to continue to monitor and update Region B ENC scheme for all Usage Bands, per the current work plan of MACHC MICC.	MICC Members	Ongoing
13.2.2		Continue to update resolution of overlaps and gaps as reflected in the ECC Regional Coverage Report Annex A and B	MICC Members and Technical Coordinator	ASAP
13.2.3		UK will forward projected M_COVR for Charco Azul and Roatan to MICC Technical Coordinator for update to MICC GIS. Charts will be based on GB charts 503 and 2493.	UK, MICC Technical Coordinator	March 13, 2013
13.2.4		UK to provide update on anticipated production date of ENC's for Charco Azul and Roatan	UK	March 13, 2013 or Until complete

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.2.5		Provide list of Cruise Line priority ports for the MACHC and other RHCs for consideration by respective charting groups	Celebrity Cruise Rep	ASAP
13.2.6		UK and Celebrity Cruises (cruise industry) to discuss alternate sources of survey data and how/if it can be applied to charting products in the Bahamas.	UK and Celebrity Cruise Rep	Until complete
13.2.7		US to provide update on production of new ENC's in the Panama Canal	USA	March 13, 2013 or Until complete
13.2.8		NL produces ENC equivalent to INT 4108 in co-operation with VEN to achieve adequate coverage on very short notice. When appropriate VEN takes over with the publication of VE300100 and VE300200	NL, VEN	NL ENC completion 1 March 2013
13.2.9	INT	MICC Technical Coordinator to look into adding ENC usage band column to INT Chart GIS	MICC Technical Coordinator	December 31 2012
13.2.10		Venezuela and UK to review limits for INT 4102.	Venezuela, UK	March 13, 2013 or Until complete
13.2.11		Colombia and UK review overlap between INT charts 4025 and 4011	Colombia, UK	ASAP
13.2.12		MICC will explore possibilities for producing an on-line regional catalogue that includes all national coverage in the MACHC region.	MICC Members	March 13, 2013
13.2.13		Include INT charts in National Chart catalogues according to S-4	MICC Members	Ongoing
13.2.14		Contact Cuba regarding transfer of charts from Cuba to France, UK, and Mexico. It is unclear which charts other than 4149 are to be transferred and who will assume responsibility. France wishes to withdraw from consideration of additional coverage.	MACHC Chair with information from MICC Chair	ASAP
13.2.15		Incorporate new INT Chart scheme, based on national coverage, for Mexico, Nicaragua and Colombia in the Pacific and Suriname, Venezuela and the US in the Caribbean. All countries are to provide limits and S-11 information to the MICC Technical Coordinator for update to the MICC GIS. The new scheme will be incorporated into the MICC GIS, reviewed by the MICC, and submitted to the CSPCWG and the IHO to change S-11.	Mexico, Nicaragua, Colombia, Suriname, Venezuela, US, MICC Technical Coordinator	March 13, 2013
13.2.16		As National Charts are updated to meet S-4 standards, their status will be updated in S-11. National hydrographic offices are responsible to ensure that S-4 standards are properly applied to INT charts.	MACHC MICC Member States	Ongoing
13.2.17		Mexico to work with UK on the boundaries between the existing Mexican INT charts and UK charts in neighbouring Pacific coast RHCs. Include Colombia and Nicaragua as necessary.	Mexico, UK, Colombia, Nicaragua	March 13, 2013
13.2.18	ADMN	All countries to update the list of participants with MICC Technical Coordinator	MACHC MICC Member States	ASAP and ongoing
13.2.19		Update TORs to replace "WG" with "Committee" and "MACCIWG" with "MICC"	MICC Chair	Completed and provided to Secretary

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.2.20		MACHC Chair to communicate new representative to WEND WG	MACHC Chair	ASAP
13.2.21		MICC to decide on new combined format for MICC report to MACHC	MACHC MICC Member States	May 22, 2013
13.2.22		MICC to provide IHB with briefing concerning Cuban ENC gaps. IHB will engage with Cuba at IMO-MSC and report back to the MACHC. MICC to continue to work with MACHC Chair, the IHO, and other channels toward improving communication with Cuba.	MICC Technical Coordinator, MICC Chair and IHO President	ASAP and ongoing
13.2.23		Access REMPEITC AIS and ship routes to assess regional chart coverage and survey adequacy and related navigation risk	MICC Chair	March 13, 2013
13.2.24		Provide national response re: CL 51 to IHB	MACHC MICC Member States	ASAP
13.2.25		MICC to provide an updated report to 14th MACHC and MACHC Chair is invited to provide this report to the IHB as the region's contribution to global ENC and INT coverage so that it may be conveyed accordingly to the IMO.	MACHC MICC Member States	14th MACHC meeting
13.2.26		In order to create the IHO worldwide ENC database, all ENC producers are encouraged to make their ENCs available to the RENCs, even if they are also distributed by different channels.	MACHC MICC Member States	Ongoing
13.2.27		If Member Countries are unable to complete their ENC coverage, the MACHC, in partnership with appropriate authorities, should consider options to address this situation, in accordance with the IMO ECDIS Requirements and WEND principles.	MACHC MICC Member States	Ongoing
13.2.28		If MACHC Member States are unwilling either to distribute ENCs or to have another country produce for them, the MACHC Chair will inform the Inter-Regional Coordinating Committee (IRCC). The IRCC will take appropriate action with the WEND Working Group, the IHB, and IMO.	MACHC MICC Member States	Ongoing
13.2.29		MICC Technical Coordinator to update MACHC web site by linking to IHO MACHC site where documents for Commission meetings will be hosted. The NOAA website will serve as the archive site for past meeting documentation and Committee working documents.	MICC Technical Coordinator	Ongoing
13.2.29		Expand Work Plan to include review of WEND Principles Implementation Guidelines and Risk Assessment Framework, and explore GIS depiction of survey quality	MICC Coordinator and Vice- Coordinator	ASAP

7.2 Capacity Building

7.2.1 Update on Capacity Building activities and submissions since the last meeting.

Mr. Jeff Bryant (UK), CB coordinator demonstrated the CB element of the IHO website for MS not conversant with the resources available. He then provided a short presentation which reviewed MACHC CB activities since the last meeting. At the last CB Sub Committee (CBSC) meeting in Singapore the only MACHC submission which was approved was for an MSI course. This was the result of a smaller budget available to the CBSC and the increase in RHCs submitting requests. The higher level courses such as MSDI, hydro surveying and charting are deemed lower priority (compared to technical visits and MSI) and will probably not get funding. There are also requests for funding of equipment which is not currently part of the CBSC remit. The CBSC is looking into acquiring funding from alternative sources in addition to that received from the IHO and the possibility of running in conjunction with other organisations such as IMO and IALA (Actions 13.3.1 and 13.3.2).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.3.1	7.2	CB coordinator to investigate further funding sources to enable training	CB Coordinator	On Going
13.3.2	7.2	The CB Coordinator should work in close liaison with the adjacent Regional Hydrographic Commissions, including the EAHC.	CB Coordinator	Permanent

7.2.2 Update on the 5 year Capacity Building plan

The 5 year plan will be updated taking into consideration the lack of funds. The MSI course passed at the CBSC will be held in Trinidad and Tobago in May 2013 (Action 13.3.3).

The themes coming from the region with regarding training are:

- Smaller scale courses with assistance from HO's in the region
- Distance learning (including Spanish version)
- Regional projects with training incorporated (OECS, GoF)
- Training Ship in region (France, Netherlands, UK)
- Regional collaboration between nations

The MACHC 5 year CB plan is available on the IHO MACHC website for MS to view and provide input at any time to CB coordinator.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.3.3	7.2	CB coordinator to update 5 year plan	CB Coordinator	Permanent

7.3 Marine Economic Infrastructure Programme (MEIP)

Mr Tim Lewis (UK), Chair of the MEIP provided an overview of the MEIP for all delegates to set the scene and highlight progress so far. MS were concerned over data security if they provided data to the MEIP; Tim reminded delegates they were under no obligation to supply data but the more that

was provided the better the MEIP would be able to assist MS. Copyright and Intellectual Property Rights (IPR) would remain in place by each nation responsible for the data (Action 13.4.1).

The MEIP was tasked with using data already available online to populate the system so as to avoid duplication (Action 13.4.2).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.4.1	7.3	MEIP to develop terms and conditions for accessing and using data held within MEIP	MEIP	by Feb 2013
13.4.2	7.3	MEIP to identify "quick win" data to populate MEIP	MEIP	ongoing

7.3.1 Presentation of MEIP Demonstrator Model Options

were made ESRI and CARIS presented their respective solutions for a MACHC MEIP for delegates to consider and discuss. MS decided that both systems be provided to the WG for a limited trial period before a decision was taken on how to progress using one provider. The aim of this trial period would be for WG members to identify a portal to achieve the MEIP purpose and not to lose focus on the 'economic' aspect of the work.

Each demonstrator would be asked to focus on one specific geographical area for WG members to assess them. They would also be assessed in the ability of MS to ultimately build their own GIS using data provided.

An example of 'dual purpose data' that could be used is, fish farms within areas of wind farms that would benefit MS two ways economically and thus might build a better case for the funding of a survey of the area.

8. Relevant International Organizations' Report.

8.1 IBCCA (International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico)

Dagoberto Uriel David Viteri of the Hydrographic Office (CIOH) of Colombia provided an update on IBCCA and the progress of the regional IBCCA sheets. MS were advised to view the webpage for the latest IBCCA activities. The Chair thanked the current IBCCA members for all their hard work and encouraged MS to take part in the work of the WG.

8.2 IALA (International Association of Lighthouse Authorities)

Rear Admiral Jean-Charles Leclair, of the IALA World-Wide Academy provided a presentation on IALA and the IALA World-Wide Academy. He emphasised that output from IALA is recognised as international standards and they have set up a training academy to distribute existing knowledge and experience to MS. Courses such as VTS training are available to ports and risk management tools seminar to increase awareness; for further details see presentation on the IHO MACHC website. MS agreed that the training provided by IALA should be incorporated into the regions five year capacity building plan (Actions 13.3.4 and 13.3.5).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.3.4	8.2	IALA to distribute via chair their questionnaire to assess nations IALA capability	IALA, Chair	End Jan 2013
13.3.5	8.2	IALA to organize seminar on level 1+ course on Aids to Navigation Manager training	IALA, CB Coordinator	By MACHC 14

8.3 REMPEITC (Regional Marine Pollution Emergency Information and Training Centre for the Wider Caribbean)

Ms. Anne Reglain, IMO Consultant, of REMPEITC provided a presentation on the work of REMPEITC and its GIS database containing traffic data and ecological areas within the Caribbean. REMPEITC currently has a project for collecting data at the land/sea interface which could be of benefit to MS for planning purposes. MS felt that the work being undertaken by REMPEITC would be of great benefit and if the data could be incorporated into the MEIP. MEIP chair (Tim Lewis, UK) requested that Anne join the MEIP to ensure no duplication of data between the two GIS systems and that all work together to produce usable products (Action 13.4.3).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.4.3	8.3	MEIP and REMPEITC to aspire to the least duplication of effort possible and REMPEITC to be invited to join MEIP teleconferences	MEIP REMPEITC	On Going

8.4 CCCCC (Caribbean Community Climate Change Centre) ²

Mr Albert Jones of CCCCC provided a presentation of the work of CCCCC; its main roles are:

- The Caribbean Community Climate Change Centre coordinates the Caribbean region's response to climate change.
- The Centre is the key node for information on climate change issues.
- It is the repository and clearing house for regional climate change information and data and provides climate change-related policy advice and guidelines to the Caribbean Community (CARICOM) Member States through the CARICOM Secretariat.
- The main goal of the Centre is to improve the ability of Caribbean people living in communities at risk from climate change to adopt more sustainable lifestyles. It does this through the provision of services designed to improve knowledge of climate change and foster adaptation to the effects of climate change.

He also highlighted that they carry out data collection and database management and have geospatial data already that could be used by MS. There could also be some overlapping activities with both MEIP and REMPEITC so will need to liaise with both to ensure no duplication of effort. CCCCC is able to assist MS in identifying projects in such a way that they are able to achieve funding from more than just a hydrographic perspective (Action 13.4.3). The MICC offered data available from their work so that it can be included within the CCCCC database if required.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.4.3	8.4	Antigua and Barbuda to discuss with CCCCC coordination with the OECS project.	Antigua and Barbuda, CCCCC	by April 2013

² 8.4 was originally IMO Member State Audits but unfortunately no representative from IMO was available to attend this meeting; the agenda item was replaced by CCCCC as they were attendance.

8.5 OECS (Organisation of Eastern Caribbean States)

Mr Dwight Gardener of Antigua and Barbuda provided a presentation on the OECS initiative for a regional hydrographic service. He highlighted that it is clear that the most cost effective approach to hydrographic capacity building in the region must be premised on a cooperative effort of regional capacity building by sharing the resources of hydrographic equipment and specialist personnel upon demand, or based on an agreed schedule, between all participating States (OECS MS are: - Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Montserrat, with two associate members, Anguilla and the British Virgin Islands).

It is envisaged that this regional initiative will be established using a two level approach as follows:

Level 1: to conduct systematic area surveys throughout the Eastern Caribbean through the creation of an inter-island collaborative hydrographic survey project using international funding and delivery by commercial resources.

Level 2: to maintain survey data to modern standards, post Level 1, by the creation of a regional hydrographic survey unit trained and equipped with mobile survey equipment to conduct minor maintenance surveys (e.g. ports and approaches), new surveys for development purposes and post natural disaster work. See also Action Item 12.2.8 Netherlands proposal for regional deployable survey capabilities.

It is expected that OECS will leverage its collective forces to gain international funding for Level 1 and the establishment work at Level 2, while continual funding for Level 2 could be shared amongst member states or through external funding.

MS appreciated the work done by Antigua and Barbuda, UK and OECS on moving the initiative forward and hope this would become a template for regional approach that can be used elsewhere in the MACHC.

8.6 RTCM (Radio Technical Commission for Maritime Services)

Mr Rafael Ponce of ESRI also represented RTCM at the conference and provided a presentation on the background to RTCM and current work.

RTCM are active in regional and international maritime radio communication policy issues, regulatory changes, and technical standards development. They work in conjunction with International Telecommunications Union (ITU), The International Hydrographic Organization (IHO), The International Association of Aids to Navigation and Lighthouse Authorities (IALA), The Comité International Radio-Maritime (CIRM), The National Marine Electronics Association (NMEA) and The Mobile Satellite Users Association (MSUA).

8.7 PAIGH (Pan-American Institute of Geography and History)

Mr. Paul Cooper of CARIS also represented PAIGH at the conference and provided an update on the Gulf of Fonseca project.

The IHO and PAIGH convened the Gulf of Fonseca Hydrographic Survey and Nautical Charting Project meeting during the IHO Meso American Caribbean Hydrographic Commission Meeting in Antigua, Guatemala, 20 November 2012.

Attending that meeting were the GoF Member States: Honduras, Empresa Portuaria Nacional; El Salvador, Instituto Geografico Nacional Centro Nacional de Registros; and Nicaragua, Instituto Nicaraguense de Estudios Territoriales. The meeting was also attended by United Kingdom

Hydrographic Office, United States National Geospatial Intelligence Agency, COCATRAM, Guatemala, International Hydrographic Organization, Pan-American Institute of Geography and History and representatives of Private Industry

The results of the meeting were (Action 13.3.6):

- Decision to continue the project discussions with authorities from the three Member states.
- Recognize that the future development of the Gulf of Fonseca can benefit from the works proposed by this project; including hydrography for the safety of navigation, physical oceanography for the protection of the marine environment, and coastal zone management.
- Decision to keep this project Regional within Central America as much as possible.
- Recognize the offerings of governmental organizations, private industry, and non governmental organizations. There were significant offers to assist in this project from the attendees.

We believe that this project will benefit the three GoF Member States and the type of cooperation that is being established will set a precedent for future projects within the MACHC region.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.3.6	8.7	Gulf of Fonseca project: 1. Decision to continue the project discussions with authorities from the three Member states. 2. Recognize that the future development of the Gulf of Fonseca can benefit from the works proposed by this project; including hydrography for the safety of navigation, physical oceanography for the protection of the marine environment, and coastal zone management. 3. Decision to keep this project Regional within Central America as much as possible.	PAIGH, Honduras, Nicaragua, El Salvador, UK, USA, COCATRAM	On Going

8.8 COCATRAM (Comision Centroamericana de Transporte Maritimo [Central American Commission of Maritime Transport])

Mr. Otto Noack, Executive Director of COCATRAM represented COCATRAM at the conference.

COCATRAM were actively involved in the Gulf of Honduras (GoH) project with the provision of training to increase the surveying and charting capabilities of the nations concerned while reducing the risk of pollution. He ran through the GoH project with regards training received, surveys carried out and products produced since; he thanked all that were involved in the project and those that have helped to maintain capacity since project completion. This was an excellent example of regional cooperation within the MACHC region with one of the major outcomes being Guatemala now has a hydrographic office and momentum to continue building capacity.

COCATRAM are in the process of defining Terms of Reference and potential sources of funding for future projects of a similar nature.

The MS appreciated the input from the organisations that attended and presented their work to the meeting. The chair was requested to ensure that there is wide involvement at future MACHC meetings; this will aid communication and reduce duplication of work between organisations and MACHC members (Action 13.1.14).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.14	8.5	Chair to propose how observer organizations participate in MACHC and how to increase participation in MACHC business	Chair	By 14th MACHC meeting

9. Blue Economy

A presentation and discussion led by Michael Jones, president of The Maritime Alliance on the “Blue Economy”.

What is the Blue Economy? It can be described as the sum of economic activity having to do with oceans, seas, harbours, coastal and intra-coastal waters.

Governments do not know the value of the marine environment within their waters; how many know statistics for people who rely on it for their livelihood or how much GDP it provides to the economy? Participants at the MACHC need to quantify the value to their respective governments and to look wider than just hydrography for charting as they will be amazed just how valuable the resource is. The more relevant the data provided the easier it will be for attention to be drawn to the need for hydrographic data.

Maritime Funding is the IHO World Hydrography Day theme for 2013; output from the MACHC will be used to promote the topic.

MACHC MS produced a resolution on the Blue Economy for future use (Action 13.1.15); the resolution can be found at Annex C. The interest in the Blue Economy by MS present prompted the Maritime Alliance to agree to host a meeting in Washington DC (Action 13.4.7).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.15	9	MACHC to provide resolution of Blue Economy in relation to hydrography	MEIP	by end MACHC13

The resolution was drafted during the 13th meeting and has been included as Annex C.

10. Maritime Funding

Michael Jones of the Maritime Alliance led a discussion session on Maritime Funding and the following are the main themes from the session.

- Maritime Funding is directly linked to the Blue Economy. Justification for a hydrographic survey is not enough without some other economic linked activity.
- MS need to identify different ways that the maritime zone can be/is being used to obtain funding.
- The MEIP is designed to be a tool for MS to use to identify areas in need for funding for hydrographic surveys and the Maritime Funding session provided justification for its inception and continual development.
- There is a need to use the MEIP to identify achievable projects within the MACHC region not only to show progress and usability of MEIP but also to increase data collection in the region.

- Hydrography is the base map for the Blue Economy and this needs to be highlighted to governments; historically it has been for safety of navigation but is so much more in today's world.

Out of these themes the following actions were crafted (Actions 13.4.5, 13.4.6 and 13.4.7) and minutes from the session are attached at Annex D.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.4.5	10	MEIP WG to develop a platform that will identify regional projects in collaboration with CB coordinator	MEIP CB Coordinator	by April 2013
13.4.6	10	MEIP WG to identify achievable projects within MACHC region in collaboration with CB coordinator	MEIP CB Coordinator	by MACHC 14 meeting
13.4.7	10	Maritime Alliance to host, coordinate and invite MACHC, industry and donor organisation stakeholders to Maritime Funding session in Washington DC. To include videoconference for those unable to travel.	Maritime Alliance, MEIP Chair	May 2013

11. Hydrographic Products Impact on Commercial Maritime Trade

Julio Yon of DISAGRO presented on how hydrographic products impact on commercial maritime trade.

He talked about how maritime trade has been going on for hundreds of years with the only real change to cargo in the form of shipping containers. Mariners are looking at ways to use less fuel, produce less pollution and be cost effective; the average vessel can cost in excess of US\$200 million.

It is projected that there will be a 14% increase in cargo in the coming years but only 10% vessel capacity, the need for accurate charts and publications is ever more important to ensure there is no loss of life or cargo.

Mariners naively believe that all information on a chart is correct but of course hydrographers are aware of the limitations. If new areas are surveyed they could open up new routes that could save time and money.

The development of new ports within the region to meet demand increases the burden on the hydrographic authorities but these must be met. It may be prudent to open up RHCs to beyond hydrography (e.g. Oceanography, engineering etc) to ensure all aspects of the marine environment are covered.

12. Maritime Safety and the World Wide Navigational Warnings Service (WWNWS)

Jim Rogers (USA, NGA) presented on the work of the World Wide Navigational Warning Service and maritime Safety. He highlighted the need to coordinate maritime safety and reporting. If all incidents are reported (such as piracy) then the data can be analysed to see if patterns appear.

The contact point for reporting within the region is navsafety@nga.mil for both NAVAREA's 4 and 12.

Coastal states should have basic MSI (Marine Safety Information) capabilities and if not contact the capacity building coordinator so that appropriate training can be arranged. This is a fundamental requirement for all coastal states and the IHO's CBSC will always support such activity..

13. Sharing Experience in Dealing with Maritime Disasters

Jamaica and United States of America gave presentations on the preparations, impacts and recovery efforts due to hurricane Sandy.

Jamaica showed in their presentation how they prepared for the arrival, during the hurricane and post damage recovery from island nations.

The US presentation showed the capability of a larger nation on the ability to bring in resources for other areas of the country.

Both the presentations highlighted the need to be ready for such events; the identification of a plan on how to deal with emergencies such as this using the preparation, impact, coping strategy and post response method. There is also a need for regional assistance at every stage in the event. MS agreed to retain as an agenda topic for next year (Action 13.1.16).

The role of the Caribbean Disaster Emergency Management Agency was highlighted and MS requested they be invited to attend the next MACHC (Action 13.1.17).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.16	13	MACHC Member States to include 'sharing experience in dealing with maritime disasters' as a standing MACHC agenda item.	Chair	Permanent By 14th MACHC Meeting
13.1.17	13	Chair to invite the Caribbean Disaster Management Response to the 14th MACHC	Chair	01 July 2013

14. Digital Coast Pilot

John Nyberg (USA, NOAA) provided a presentation on the work done on the mobile application of NOAA/OCS Coast Pilot. The Android tablet application which is still in development offers the following:

- Integrates Coast Pilot content with NOAA Nautical Charts.
- Integrates Nautical Chart displays with real-time GPS positioning and tracking.
- intended to fulfill official Coast Pilot® carriage requirements for commercial mariners
- Serve as a charting resource for recreational boaters.

15. Cruising Guide to Colombia

Presentation by Colombia on their new cruising guide intended for the leisure market; it contains useful information when transiting Colombian waters as well as a graphic of the charts mariners may wish to buy. The aim of the publication is to encourage leisure users to consider visiting Colombia by highlighting marinas, facilities and tourist locations. The guide covers both Pacific and Caribbean

coasts as well as islands and archipelagos. MS were presented with a copy of the publication and the chair commended them on the hard work that has gone in to producing the publication.

16. Survey Presentation

Don Ventura of Fugro provided a presentation on LIDAR and multibeam surveying techniques illustrating products available and usage taking into consideration operational and logistic considerations, survey planning, mobilisation and demobilisation and processing. It also compared the two surveying types highlighting the operational issues associated with each.

MS found the presentation informative as it will assist their thinking when planning a survey.

17. Crowd Sourcing Survey Techniques

Paul Cooper, Vice President of CARIS presented on progress made on the use of crowd source data in the hydrographic context.

Crowd sourcing has generally been considered as unusable data, but in recent years it has become more common therefore more acceptable. Some data contained within current charts is collected from old survey techniques where positional and depth gathering was dependant upon the equipment and techniques available at the time. How can this be better than the use of crowd sourcing with the use of GPS, tidal reduction etc. With the limited amount of sea area that is currently surveyed to the agreed international standards some data is better than no data.

There is currently a trial taking place in Antarctica using five vessels to assess the validity of Crowd Sourcing; so far the data looks promising. MS requested that the validity of Crowd Sourced data be assessed (Action 13.1.18)

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.18	17	MACHC accepts the validity of Crowd Sourcing and requests the chair propose HSC to assess the validity of its use.	Chair	End Jan 2013

18. Offshore energy – what does it mean to the Hydrographic Community?

Don Ventura of Fugro provided a presentation on offshore energy and the process taken for site assessment, development, installation and maintenance.

It was also highlighted that the initial surveys of the proposed location do not normally gather data suitable for hydrographic purposes and that MS should ensure it is written into the surveys specifications so that usable data is obtained.

Nations that are currently dependant on imported energy should consider the use of renewable offshore energy to make them more self sufficient. Wind turbines take up large areas but do produce green energy and the marine areas that they are situated in can become marine reserves.

19. Any Other Business

19.1 Hydrographic Academy

Don Ventura of Fugro promoted the Hydrographic Academy based at the University of Plymouth in the UK. It offers distance learning hydrographic courses that are flexible learning patterns to fit around current work and provides university level courses with professional body recognition. It is also able to provide individual CPD modules towards undergraduate and post graduate qualifications. The online courses would then be followed up by a practical aspect. It was noted that the individuals attending online training would still be available for their day to day work with their employer.

MS were very interested in the idea of remote learning followed by an in region practical; MS were asked to think of a location if this were to become required training. There was also a great deal of interest from the Spanish speaking countries if the course could be translated (Action 13.3.7).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.3.7	19.1	Investigate the feasibility of Spanish online training similar to that of the Hydrographic Academy of University of Plymouth.	CB Coordinator	By MACHC14

19.2 Hydrographic Society

The IHO raised the issue of a lack of Hydrographic Society within the MACHC region. There is currently a hydrographic society of North America but this could be extended to include all of the Americas and the Caribbean.

MS supported the concept of a hydrographic society of the Americas that would unite the professional interests of hydrographic specialists and provide an international collective voice whenever required.

19.3 Nicaragua Update

Nicaragua provided an update on the momentum they have been able to keep since the Gulf of Honduras project. They are now able to conduct hydrographic surveys, train surveyors and produce charts. MACHC chair commended them on their excellent progress and offered to write a letter commending them on their excellent progress and that they are a role model for other nations in the region (Action 13.1.19).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.19	19.3	Chair to send letter to Nicaragua commending them on their progress in achieving a hydrographic office	Chair	End Jan 2013

19.4 Remote Participation

MS know the benefits of attending the MACHC but attendance is not always an option due to resources, time, funding etc therefore they requested the ability to have Audio/Video facilities during the next MACHC meeting. The chair agreed to look into the option of providing in conjunction with the hosts for the 14th MACHC (Action 13.1.20). This is not intended to dilute attendance and MS feel there is a real benefit in being there in person - it is just to supplement.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.20	19.4	Chair to look into providing Audio/Video facilities at next conference for delegates unable to attend	Chair	By 14th MACHC meeting

20. MACHC report to IRCC 5

The themes coming from the 13th MACHC for inclusion to the MACHC report to IRCC5 are as follows:

1. Wider involvement with organizations in region
2. Industry participation
3. Blue Economy
4. MEIP work
5. Intercessional activities
6. Sub region projects
7. CB planning even with limited CB funding
8. Training – benefits of computer based training, primary language, practical in region
9. Data gathering methods - Crowd Sourcing, Satellite Bathymetry
10. Specialist user input from visits and meeting participation
11. MS views on new guidelines of WEND-WG
12. Invite chairs of similar RHCs to plenary
13. Participation in Sea Trade Cruise Shipping Conference, Miami. Possibly include a presentation to educate the audience on their reliance on hydrography they have and how they can help provide data for products to improve safety (Action 13.1.21).

These themes will be expanded on for consideration by IRCC.

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.21	20	Chair (Suriname) or IHO to participate in the Sea Trade Cruise Shipping conference in Miami (March 11-14, 2013)	Chair, IHO	April 2013

21. Date and Venue of the next meeting

The Netherlands offered to host MACHC14 in St Maarten and this was agreed by all MS present.

The IHO proposed moving the time of the conference due to conflicts with other international meetings in November; the chair and vice chair (hosts) to discuss and inform members accordingly when dates for the 14th MACHC have been set (Action 13.1.22).

Action	Agenda Item	Agreements	Responsible Party	Due Date
13.1.22	21	Chair (Suriname) and host (Netherlands) to organise MACHC14	Suriname, Netherlands	By 14th MACHC meeting

22. Election of Chair and Vice Chair

The commission approved Suriname to take over the Chair and Netherlands to become Vice Chair of MACHC as agreed at the 11th meeting. The outgoing chair agreed to hand over the Chair as per MACHC statutes article 5e three months after the conclusion of a normal conference; end of February 2013.

23. Approval of the Action List

The draft actions were agreed by Member States and are attached at Annex E.

24. Closing Remarks from the Chair

Suriname commended the outgoing chair (Rear Admiral Nick Lambert) on his excellent leadership and international interaction during his two years at the helm of MACHC. They thanked the MS for electing Suriname as chair and Netherlands as Vice Chair and understand the responsibility placed upon them.

Kongsberg made a presentation to Admiral Lambert in respect to his progressive work over his two year tenure as UK National Hydrographer.

IHO President Robert Ward remarked on the excellent work done by this commission and the level of interaction and engagement not just in the meeting but outside during the time in Guatemala.

Admiral Lambert concluded the meeting by thanking the outstanding work of the hosts, translators and hotel staff. The post of UK National Hydrographer was an excellent role to end his Royal Naval career and out of all the roles within the job, the RHC work was the most interesting and the MACHC will have a special place in his heart for their enthusiasm and interaction.