

13th South West Pacific Hydrographic Commission Meeting
25-27 February 2015 - Rarotonga, Cook Islands

Final Minutes

1. Opening

1.1 Opening Remarks by Host

Mr. Vaipo Mataora, Manager of Geospatial Infrastructure Cook Islands spoke on behalf of Mr. Mac Mokoroa, Secretary of Infrastructure Cook Islands. He thanked everyone for the opportunity to host the SWPHC meeting in the Cook Islands, and acknowledged the support of the Cook Islands Government and Deputy Prime Minister Hon. Teariki Heather to facilitate this. While looking forward to the opportunity to discuss obligations and the prospect of capacity building in the SWP, Mr. Mataora thanked the IHO and IMO for supporting the SWP community to meet their obligations, and hoped that this would continue in the future. Mr. Mataora also thanked the meeting delegates for their commitment and participation.

1.2 Address by Chief Guest

The Honourable Teariki Heather, Deputy Prime Minister Cook Islands, welcomed all the guests with a warm *kia orana*, and acknowledged Mr. Mataora's efforts in organising the meeting in the Cook Islands. Hon. Heather especially thanked IHO President Mr. Robert Ward and SWPHC Chair Commodore Brett Brace for their attendance. While commenting on the history of navigation in the Cook Islands, Hon. Heather recognised the significance of the SWPHC in supporting common maritime interests in economic development, security and environmental protection. Hon Heather noted his pleasure at the wide representation of those in attendance and looked forward to the outcomes from the meeting.

1.3 Opening Remarks by the Chair

Commodore Brett Brace, SWPHC Chair, acknowledged the welcome on behalf of the delegates. Cdre. Brace praised the interactions and discussions at the workshop during the two days preceding the meeting. With the size and uniqueness of the SWP commission, Cdre. Brace stressed the importance of bringing together maritime nations with those with hydrographic backgrounds. With the importance of being contactable, Cdre. Brace encouraged representatives to stand up as 'points of contact' for their nations. As the community was seen to come together more reliably, Cdre. Brace saw this as demonstrating the return of investment, leading to more opportunities for funding to better capacity. Cdre. Brace encouraged the delegates to seize the opportunity to influence the IHO, to get the capacity building they wanted.

1.4 Opening Remarks by the President of the IHO

Mr. Robert Ward, President of the IHO, began the address with commenting on the known inadequacies of charting in sea areas, including costal zones. With increasing dependencies on maritime traffic, Mr. Ward encouraged participants work collectively in planning the community's future. It was noted that Mr. Ward saw raising government's awareness of hydrography's role in economic, social and environmental development as a high priority, along with capacity building. Mr. Ward commended the work NZ had done on the risk assessment tool, which highlighted clear areas of priority for governments to consider and address.

1.5 Agenda and Timetable approval

The Chair, Cdre. Brace, invited participants to introduce themselves, and reminded participants of the role of the SWPHC meeting.

The Chair introduced the Draft Agenda ([SWPHC13-01a](#)) and Timetable ([SWPHC13-01b](#)). Members were invited to comment and adopt the documents. The agenda was adopted with no changes; however it was agreed that there would be some flexibility in the timing if areas were not covered to participants' satisfaction.

1.6 List of Documents

The Chair introduced the List of Documents for the meeting.

1.7 Administrative Arrangements

Mr. Mataora provided the meeting participants with the required housekeeping details.

The Secretary, Mr. Jasbir Randhawa, requested participants to review and confirm the List of Participants (SWPHC13-01d) and provide any updated/additional information. The updated list can be found in **Annex A**.

2. 12th SWPHC Minutes Approval

The delegates confirmed that the SWPHC12 Minutes ([SWPHC13-02](#)) were a true reflection of the proceedings from the previous meeting.

3. 12th SWPHC Actions List review

The Secretary and action owners provided updates on the status of the List of Actions from SWPHC12 ([SWPHC13-03](#)). All items, except those below, were considered complete or have been added to the agenda for further discussion in detail.

SWPHC12 Action Item	SWPHC12 Agenda Item	SWPHC12 Action	SWPHC13 Comment
12.03	5.1	It was agreed that the proposed document regarding roles and responsibilities of SWPHC host nations (document SWPHC12-05b) should be included on SWPHC website.	Sent to IHB twice and Requested to be included on website.
12.12	11.1	All States in the region that do not have the necessary spatial infrastructure to submit their data to SPC. SPC to obtain permission from States in the region to release data (and associated metadata) to PCAs for charting action.	No update on this action available. Requested that action be amended (see below).

Additional new actions (13.01 & 13.02), were created based on Action SWPHC12.12, to assist in creating an SPC wide policy for releasing data for charting purposes. It was also decided to send a letter similar to last year's to encourage participation at SWPHC14.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
12.12	3 (SWPHC 12.12)	All States in region that do not have necessary spatial infrastructure are strongly encouraged to submit their data and/or metadata to SPC. SPC and/or PCAs to seek permission from States in region to release data (and associated metadata) to PCAs for charting action.	All States PCA/SPC	Ongoing
13.01	3	SPC to come up with a plan (for the above Action 12.12),	SPC	1 May 2015
13.02	3	UKHO to discuss with SPC the possibility of releasing their bilateral arrangement to other states for possible use as model.	UKHO & SPC	1 May 2015

13.03	3	Chair to write a letter to delegates' relevant authority responsible for hydrography, highlighting usefulness of SWPHC (cc Minister of Foreign Affairs and/or Prime Minister / President).	Chair	30 April 2015
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4. IHO/IHB Matters

4.1 IHB Report

Mr. Robert Ward (IHO President) provided the IHB Report ([SWPHC13-04.1](#)) to the meeting. When discussing the ratification of Protocol of Amendments to the IHO Convention, Mr. Ward encouraged Fiji and Tonga to formally give their support for the Protocol of Amendments. He stressed that the simplified joining procedure (for IHO membership) would assist those states with more fluid governments. Tonga responded that they would soon be in a position to respond.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.04	4.1	Member States in the Commission, who have yet to approve the amendments to the IHO Convention, are to encourage their relevant government authorities for necessary action.	Fiji & Tonga	ASAP

Mr. Ward advised that while ninety percent of INT Charts had been published, IHO were in the process of developing an 'INT to GIS' project, that will move S-11 part B into an interactive GIS/S-100 compliant environment. Mr. Ward acknowledged that there was also ongoing work to establish guidelines for crowd-sourced bathymetry, which intended to provide standardisation about uncertainty, minimum metadata, etc. Also, with an improved data centre for digital bathymetry for all of the oceans' depth data, Mr. Ward hoped access could be improved so that there was a repository for crowd-sourced bathy data which contributors could store and see. This would not be for commercial use. Mr. Ward saw that the world was moving from organisations that exist to map and chart, to those more interested in geodata. With the MSDI working group meeting in London soon, and UNGGIM spatial data infrastructure at a global level, Mr. Ward encouraged delegates to find out who their representative was and make sure that they were aware that two thirds of the earth was water. While ENC's were getting closer to 100 percent required to support marine voyages, the rate was slowing. Mr. Ward requested reports on metrics to update progress and reminded countries that when another state produced ENC's for them that they still had some responsibility to ensure there were no gaps and overlaps.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.05	4.1	INT Chart Coordinator (Australia) to collate updates for M-11 and forward to IHB.	Australia	1 April 2015

Mr. Ward urged member states to consider how chart coverage was going to be managed in the transitioning to S-100 ENC's, and to consider what capacity building would be needed to be able to actively contribute to the Primary Charting Authority (PCA).

With some fully funded and currently undersubscribed Category A and Category B training opportunities coming up, delegates were encouraged by Mr. Ward to spend time in preparing candidates to ensure stringent entry requirements were met, particularly English proficiency and an internationally recognised science qualification.

As the UN were working the agenda of "*The World We Want*", Mr. Ward encouraged the states' delegates to talk to government or agency heads to link to this theme, and suggested disaster risk reduction as an example. Mr. Ward informed the meeting that the theme

for the 2015 World Hydro Day was ‘*Our Seas and Oceans Still to Be Explored and Charted*’, which would highlight problems with a lack of data in areas. A short video clip was available for use on IHO website, explaining hydrography in layman’s terms (www.iho.int). Mr. Ward also mentioned two publications (IHO’s ‘International Hydrographic Review’ and ‘Hydro International’), and encouraged participants to submit papers or articles to publicise what was being done in the region.

Captain Mike Drake (Carnival Australia), asked that while the ENC coverage looked good on paper, were there plans for IHO to redefine shipping routes. Mr. Ward responded that there no plans as such, however the more versatile ENC catalogue would allow users to see charting gaps and inform relevant authorities. Mr. Ward commented further by saying that Carnival Australia was the only cruise operator who had specified what was lacking; other cruise lines did not appear to want to give away trade secrets. Due to Capt. Drake’s request, Mr. Ward agreed to amend IMO Sub-committee on Navigation, Communications and Search and Rescue (NCSR) report to state that *one* shipping company provided input about shortfalls in ENC coverage multiple times. Mr. Ward expressed his frustration at other shipping companies.

Capt. Drake queried how best to convey lack of data; in some areas Carnival Australia had direct links with local pilots, but wanted to know about areas not under pilot control. Vice Admiral Bruno Frachon (France) responded regarding the expression of new requirements for ENC on new shipping routes that cruising companies should make their requirements for passages and moorings known to local pilots, who would convey the requirements to the local hydrographic committee for processing. However, VAdm Frachon noted that this process could miss requirements for additional ENCs or chart coverage in areas that were not under the pilot’s responsibility. VAdm. Frachon proposed for this meeting to discuss how to fill this potential gap in data collection for shipping needs.

4.2 SWPHC Report to IRCC6 (Inter Regional Coordination Committee)

Cdre. Brace provided a summary on the SWPHC Report to IRCC6 ([SWPHC13-04.2](#)), while encouraging meeting participants to read it thoroughly themselves. Relevant actions related to encouraging approval of application for membership. Cdre. Brace commended Mr. Greenland (NZ) for ensuring compliance with capacity building procedures, and also noted the capacity building of SPC. GEBCO were invited to send a representative to meetings, which was extended to stakeholders and expert contributors. The report proposed a presentation on the NZ led Risk Assessment work done.

Cdre. Brace also introduced a transport information paper which he encouraged participants to read

4.3 IRCC6 Report (Inter Regional Coordination Committee)

Capt. Jamie McMichael-Phillips (UK) updated delegates on the IRCC6 Report ([SWPHC13-04.3](#)), the last IRCC meeting and topics related to the region. Capt. McMichael-Phillips remarked that the meeting focused on a capacity building subcommittee for targeted training, with the growing demand for coordinators to prioritise importance of training bids and ensure they matched global requirements. IRCC were considering minimum standards to improve quality and new modes of delivery while maintaining minimum standards, for example the provision of eLearning, and the guidelines and minimum timeframes for Cat. B courses.

IRCC agreed to update WEND principles While there were draft procedures to eliminate overlaps, Capt. McMichael-Phillips suggested that for geopolitical reasons these overlaps could remain. As the overlaps were an issue, this would be discussed with the Working Group the next week at WENDWG. The meeting provided a scoping paper for the ENC catalogue, which Capt. McMichael-Phillips said would be intelligent and could be used for determining where gaps exist to monitor and advise on when ENCs and paper charts should be updated. There was a proposal of what a full implementation of WEND might look like and how could be implemented.

Other key achievements of the meeting, Capt. McMichael-Phillips felt, were the productive discussions which added to other meetings and forums. The meeting also assisted with the recruitment of new members and endorsed finding new opportunities.

It was agreed at IRCC6 that future IHO-IRCC meetings would be extended to a three day meeting. Capt. McMichael-Phillips reminded meeting delegates that the IRCC encouraged members to attend meetings and to engage with stakeholders

4.4 EIHC5 Report (Extraordinary International Hydrographic Conference)

With reference to his Report on the 5th Extraordinary International Hydrographic Conference ([SWPHC13-04.4](#)), Cdre Brace briefed delegates on topics related to the South West Pacific region. *'Risk Assessment & Geospatial Data in the 21st Century'* was presented and Cdre. Brace said the resulting actions talked about novel ways to receive bathy data (crowd-sourcing, etc.). Cdre. Brace encouraged hydrographic offices to consider spatial infrastructure, as the discoverability of data was becoming as important as charts.

The report highlighted the status on the approvals of Amendments to the IHO Convention and Cdre. Brace again encouraged Member States in the region to formally approve them. Mr. Ward was invited to explain more about amendments to IHO convention; he explained that each state could only be in one commission, so would be looking to clarify which commission each state was representing. Each commission would then nominate representative(s) on the council.

Cdre. Brace continued by announcing that preparation for future IHO Conferences/Assemblies meetings was in progress and encouraged meeting participants to ensure that all matters relevant to the SWPHC be submitted for consideration at the next Conference/Assembly.

Capt. John Lowell (USA) requested clarification on when it was agreed how representatives were chosen/elected. Cdre. Brace responded that agreement was reached at SWPHC12 in Vanuatu, but once it was known how many representatives were needed further clarification on voting would be needed.

The question was raised for consideration that if a country was eligible for representation in other commissions, and if they decided to be represented in another commission, should they have a vote in this commission? Mr. Ward expressed his support that they should, with their vested interest in the SWP commission.

Mr. Tim Sewell (UK) queried that there could be other commissions that were in a similar debate about voting, and suggested that the Commission consider work done by others in order to avoid duplicated effort. Mr. Ward responded that these principles were echoed in other commissions. The Chair agreed to present some draft words to be brought for discussion later in the meeting.

4.5 WEND-WG Report (Worldwide ENC Database Working Group)

Capt. McMichael-Phillips provided an update on the work of the Worldwide ENC Database Working Group in his WENDWG Report ([SWPHC13-04.5](#)) and which reported an awareness of ENC areas sparse of data. Capt. McMichael-Phillips assured the meeting that work was being done to address the issues and, once debated, the commission would be informed. Participants were encouraged by Capt. McMichael-Phillips to assess their own area for gaps and overlaps, and see what could be done; suggesting to align paper charts and ENC updates so they were promulgated at the same time, and to anticipate S-100.

Capt. Drake (Carnival Australia) asked for an indication of the percentage of authorities who promulgated T&P notices for paper and ENC together. Capt. McMichael-Phillips responded that this was not known; some authorities produced them together, but some had to produce ENCs while still producing paper charts. It was further added that the IHO realised this was a significant problem but it was improving.

4.6 HSSC6 Report (Hydrographic Services and Standards Committee)

Cdre. Brace updated delegates on the HSSC6 Report ([SWPHC13-04.6](#)) and the HSSC meeting in November 2014. He felt that the many working groups had good crossover and covered multiple outcomes, which helped states raise issues when unable to attend meetings.

Among the issues raised were that mariners had noted different standards on the different ENC's. Progress had been made for draft S-100 specifications, with Cdre. Brace making special note of the help the Republic of Korea gave to this. Cdre. Brace felt the PCAs would be very interested in knowing the proposed timeline on next generation of ENC's. He also acknowledged what a step forward having tides embedding in ENC's would be, with the need to check quality of tidal information. Cdre. Brace cautioned States to develop business continuity where essential tasks were done by one or two individuals. He encouraged states to focus on the future and link to MSDI, being ready for a future of moving away from paper charts, and the change of focus to geospatial information.

Capt. Drake (Carnival Australia) reminded states of the huge problem of data quality as cruising areas correlated to data quality. Cdre. Brace responded that information on ENC's should be relevant and meaningful for mariners, rather than just putting it in there. Mr. Sam Harper (UK) commented that the work in the data quality working group was on-going, but coming to a conclusion as new methods emerged. Mr. Harper warned of the politicalization of data quality, of the danger of over represented quality which needed to be faithfully and honestly represented.

Mr. Adam Greenland (NZ) commented that ENC production and the inclusion of T&P was a significant challenge for NZ. The national report highlighted cartographer training needs in region. As 'Zones of Confidence (ZOC)' were found to be crucial for Risk Assessment work in the cost benefit analysis, Mr. Greenland hoped these would be retained. UK reassured NZ that the fundamental principles were to be compatible with what was currently used.

Mr. Ward concluded by informing the meeting that the technical programme was extensive and did have critical elements. With resources at a premium, Mr. Ward suggested thinking more where expertise actually lay, that delegates could rely on outside expertise and work done on contract.

4.7 Marine Spatial Data Infrastructure Working Group Report (MSDI)

Mr. Ward provided an update on the work of the MSDI Working Group ([SWPHC13-04.7](#) MSDI WG Report). The report contained guidance on how member states could contribute to SDI with marine data, which many countries did not include. Looking at the fundamental data sets which should make up the MSDI, Mr. Ward encouraged meeting participants to share their successes and learnings with the MSDI Working Group.

4.8 IHO Year Book P-5

As the source for tonnage figures, members were required to check the details and contact points in P-5 ([SWPHC13-04\(8\)](#)), as per Article 10 of the Statutes, and update as required.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.06	4.8	All States to provide updated information for P5 including those who do not have any entries in the current edition.	All States	1 May 2015

The Chair noted that P-5, and all other resources and presentations, would be available on the IHO website.

4.9 Status of Hydrographic Surveying and Nautical Charting worldwide (C-55)

Mr. Ward provided an update on C-55 development, SWPHC13-04(9).

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.07	4.9	All States to review information of C-55 and provide the necessary updates.	All States	1 May 2015

4.10 International Hydrographic Review (IHR) Editorial Board

VAdm. Bruno Frachon (Director General SHOM), as the SWPHC representative on the IHR Editorial Board (SWPHC13-04(10)), provided an update on IHR developments. He called for papers to be submitted before the end of July, and encouraged participants to read the reviews available on the IHO website

5. Membership and Statutes

Cdre. Brace agreed to write to respective States to extol virtues of the Commission to encourage continued attendance at meetings. States would update information with the Secretary.

Cdre. Brace provided a draft statement to support possible amendments to the SWPHC Statutes ([SWPHC13-05](#)) for election of Member States (within SWPHC) to the Council. In the case of Member States encompassing more than one commission, there was provision for voting rights even if they elect to not be eligible for election from SWPHC. Once numbers for each commission are set by the IHB, the Chair would arrange for a postal ballot within the Commission.

Capt. Lowell (USA) commented that while the draft statement was a start, however he felt the terms of references did not specify what would happen if there was insufficient responses from Member States. Chair responded that a minimum two-thirds of valid ballot responses would be required to make a decision.

UK queried how representatives would be decided if there were two seats or more for SWPHC in the Council. The Chair responded by assuring UK work would be done on the technicalities of voting, and there was time before finer details were needed.

France supported the wording and VAdm. Frachon believed it was in line with the intention of the future General Regulations. He did wonder how other commissions would deal with this, and suggested liaising with other commissions (particularly MBSHC) to align with their thinking. The Chair encouraged members to provide feedback and reassured the states there was still some work to do to bring the statutes in line with other commissions.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.08	5.2	Update Statutes to reflect council voting rights within the SWPHC. Distribute draft rules from MBSHC, and statutes, for discussion. Make Statues gender neutral.	Chair	1 May 2015

6. National Reports

6.1 Australia

Cdre. Brett Brace summarised Australia's national report ([SWPHC13-06a](#)) highlighting the work done to improve systems and processes, including the implementation of CARIS HPD and making updating ENC's a priority. Australia confirmed their commitment to capacity building in the region.

6.2 Fiji

Lieutenant-Commander Gerard Rokoua presented Fiji's national report ([SWPHC13-06b](#)). He stated that legislation of the hydrographic services had been successfully incorporated into the Maritime Transport Decree 2013. This document was freely available on the web and could be used as a model by States. Mr. Stephen Bennett (IALA) commended the Decree as a maritime law template.

Capt. Drake (Carnival Australia) was interested to know, with the UN being originally aiding Fijian hydrography, who currently funded the work. Lt.Cdr. Rokoua stated the Fijian Government.

Fiji's report made reference to their five year plan; a query was raised about the level of stakeholder involvement in the development of the plan. While Fiji had tried to involve all interested parties, Lt.Cdr. Rokoua lamented attendance difficulties and, even though not many people were at the first meeting, it was a start. Mr. Ward suggested that Carnival Australia may wish to be involved when developing the next five year plan. Lt.Cdr Rokoua confirmed that discussions were underway to develop their next five year plan.

Mr. Ward further commended Fiji in offering experience to other Pacific Island Countries (PIC), and was pleased to see that trickle down effect and maturity in planning.

6.3 France

VAdm. Frachon summarised the report for France's areas of jurisdiction ([SWPHC13-06c](#)). The work SHOM undertook included surveys for mining and cruise ships conducted in New Caledonia, and the data gathering and calibration of satellite information for surveying atolls in French Polynesia. Planning was underway for LIDAR surveys, which were hoped to be conducted by 2016 in small areas important for tourism. VAdm. Frachon stated that full coverage for ENC was nearly half completed, but this was only the shipping routes. In urging members to read France's report, VAdm. Frachon highlighted an MSDI related link which complied with European requirements.

6.4 New Zealand (NZ)

Mr. Stuart Caie presented NZ's national report ([SWPHC13-06d](#)), which included full ENC coverage, excluding areas with unknown datums. The survey work done in Samoa and the Cook Islands, Mr. Caie said highlighted known issues in the Cook Islands. LINZ would conduct a Risk Assessment of NZ and the Ross Sea by June 2015.

Mr. Caie affirmed that a Risk Assessment was planned for Samoa, with a probable start in April 2015. While thanking NZ Defence Force (NZDF) for their surveying activities, Samoa inquired how New Zealand planned for these. NZ explained that when NZDF had capacity in an area, they would approach the government with a list which would then be ranked. It was necessary to balance what could be done in time available with the list given.

6.5 Papua New Guinea (PNG)

Ms. Rhonda Amos presented the national report for PNG ([SWPHC13-06e](#)). While a number of surveys had been undertaken, this data had yet to be used for chart production/updating. She informed that government agencies and stakeholders were represented on PNG's Maritime Safety Committee which met annually to discuss development issues related to hydrograph and provided input for prioritising surveys. Ms. Amos highlighted that work on compilation of list of lights to be consistent with S-12 commenced in 2013 and expected to complete by end of 2015. When questioned by IALA, Ms. Amos confirmed there were 280 listed aids to navigation in PNG.

Capt. Drake commended PNG's National Maritime Safety Authority (NMSA) on their rapid progression.

Cdre. Brace informed the meeting about an updated MoU to be signed between Australia and PNG, around broad hydrographic surveys and to include PNG Defence.

USA inquired about the surveys conducted by developers, and asked Ms. Amos to elaborate why this data had not made it to the PCA. Ms. Amos responded that developers

were required to provide their data to NMSA; however the authority would only be aware of the existence of such data anecdotally, e.g. upon commissioning new jetties. Cdre. Brace confirmed that Australia's Maritime Safety Authority did not include mining or logging industries, who did their own surveys and needed to be reminded to provide this to the hydrographic authority.

6.6 Tonga

Ms. Kelela Tonga summarised the national report for Tonga ([SWPHC13-06f](#)) which covered the time since Tonga last attended an SWPHC Meeting in 2001. Ms. Tonga informed the meeting of the government reforms in 2014 which moved the hydrographic office from Navy to the Ministry of Infrastructure, and re-established the National Hydrographic Committee. Tonga offered their Navy survey vessel to other PIC when available, and the support of two Cat. B officers and assistant surveyors. Hydrographic legislation was underway. Survey sensors were to be upgraded.

Cdre. Brace complemented the reinvigoration of hydrography in Tonga, and defining of the Navy and Ministry roles. IALA complemented Tonga on the formation of their National Committee.

When queried by Cdre. Brace about capacity building arrangements, Commander Taniela Tuita stated they made use of defence partnerships. Tonga also requested continuous MSI training. NZ assured Tonga of the intention to hold MSI Training every two years, which was in the five year Capacity Building Plan.

6.7 United Kingdom (UK)

Mr. Tim Sewell summarized the United Kingdom's report ([SWPHC13-06g](#)), and reminded non-chart producers the need for new editions and charts. Mr. Sewell commended the cooperation within the Commission which enabled production of a number of charts. Technical visits for Kiribati and Vanuatu were undertaken, as well as liaising with Fiji for the work there. The satellite derived bathymetry trial was done and HMS Echo was involved with the search for Malaysian aircraft MH370. Mr. Sewell commented that the UKHO had produced some paper-only port approach charts which drew on data from a variety of sources. Although these were not SOLAS compliant, Mr. Sewell enthused that they were very popular as they reduced research for mariners.

6.8 United States of America (USA)

Capt. John Lowell began the USA national report ([SWPHC13-06h](#)) by showing a video, which gave an overview of NGA and showed the three offices that were actively involved in the SWPHC. Capt. Lowell detailed the open data policy that the USA had, and encouraged other nations to open their data also. While there had been no USA surveys in the Pacific in 2014, Capt. Lowell noted that there were some planned for 2015 as a vessel would be in the area. Risk Assessment had been done in the Arctic, as an area of limited data. The Risk Assessment took a similar approach to the NZ model and was coordinated by four of the five nations involved in area.

Capt. Lowell also noted that USA had an updated world magnetic model.

6.9 Cook Islands

Mr. Vaipo Mataora summarised the Cook Islands national report ([SWPCHC13-06i](#)), which included the Risk Assessment carried out in 2013, and participation in capacity building activities. Mr. Mataora felt that the Cook Islands were now firmly established at Phase One with their national hydrographic office. However, Mr. Mataora noted that there was a lack of political support, understanding and funding from government, and with no succession plan in place. It was felt the cost of equipment was a challenge, as was the lack of maritime training although Mr. Mataora acknowledged that had been provided by the IMO and IHO. Mr. Mataora recognised the importance for Cook Islands to meet their international obligations, and that it was in the future plan to become a full IHO member.

Mr. Greenland (NZ) encouraged the Cook Islands, and other non-Member States, with the

benefits of becoming a Member State and the increased opportunities for the capacity building it enabled. While Phase One Capacity Building was open to all countries, the other phases were largely only open to the full Member States. Any financial contribution, Mr. Greenland said, would be received back in benefits.

Cdre. Brace questioned the perception of lack of political support in the Cook Islands. Mr. Mataora replied that he felt the SWPHC13 meeting had helped bring the importance of hydrography to the Minister. Mr. Mataora was also encouraged by a soon to be established National Meeting, defined maritime boundaries and the lodged application for the extended continental shelf.

6.10 Kiribati

Capt. Ruokabuti Tioon summarised his nation's progress ([SWPHC13-06j](#)). He acknowledged that Kiribati's Marine Division needed to do more to meet its obligations. Kiribati was liaising with SPC regarding the hydrographic survey to be conducted in 2015. Capt. Tioon had also requested a technical visit to Kiribati to assist and advise implementation of hydrographic services in Kiribati. The priorities, Capt. Tioon felt, were to promote government awareness of their international obligations for hydrographic services.

Mr. Greenland (NZ) queried the timeline for SPC survey funded by AusAid. SPC responded to say their survey vessel would be in the Solomon Islands in April, and in Kiribati in May or June.

Mr. Greenland asked for clarification around the three different people who attended IHO funded training, and how the information was disseminated from these training courses. Capt. Tioon responded that the three were all representatives from the Marine Division, so the knowledge gained was shared within the organisation. However, Capt. Tioon acknowledged that there had been a Japanese funded Cat B training course whose participant was from another Kiribati ministry, which was a matter of concern. As the Capacity Building Coordinator, Mr. Greenland urged all meeting participants to inform him of any other training they know of. He also encouraged countries to ensure Cat B trained staff were using their training. Mr. Greenland also requested the IHO to start a dialogue with Japan to get an idea of their plans and agenda.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.09	6	Establish contact, as far as possible, with JICA and other agencies to establish their capacity building agenda, with the intention for IHB to report at CBSC meeting. Including lists of any selected candidates on current and future courses.	IHB	CBSC 13 Meeting

While Kiribati's limited progress was noted, Mr. Ward was encouraged to see the development of an action plan. For the follow up technical visit planned, Mr. Ward suggested that Capt. Tioon convene the first meeting of National Hydrographic Coordinating Committee which the technical visit would help to facilitate. Mr. Greenland endorsed this proposal, noting the prior success with engaging in this manner across government in Vanuatu.

6.11 Niue

Delegate was unable to attend. Niue would be included in NZ Aid Programme.

6.12 Palau

Mr. Mekeruul Ueki presented a report for Palau ([SWPHC13-06l](#)), stating that Palau was still in the very early stage of establishing their office.

Mr. Ueki requested a country visit to Palau to assist in highlighting the importance of hydrography to the government. Mr. Ward responded that, while it was obvious that Palau was in need of capacity building, he had already visited as an awareness raising activity

but was unable to get any interest from government. While the Commission recognised the need, Mr. Ward requested that some preparation be done in country beforehand. As with Kiribati, it was important that those states wishing to have technical visits did more to prepare before the team arrived, then the visit would be more successful.

Cdre. Brace enquired after survey data from 2013, and if this had made it to charting. USA was unsure. However Capt. Lowell stated there were two new Palau ENC's which were not yet available, and Palau's permission would be sought to publish them. USA offered to help to co-ordinate and prepare for a technical visit.

6.13 Solomon Islands

Mr. Clifford Olisukulu presented his report ([SWPHC13-06m](#)) for the Solomon Islands. Mr. Olisukulu informed the meeting that the Solomon Islands Hydrographic Unit can now be able to receive requests for surveys from logging, mining and the tourism sectors. The Solomon Islands Hydrographic Unit (SIHU) is now capable of performing MSI and Hydrographic surveying activities, however Mr. Olisukulu admitted that it's charting activities is limited and requires further additional support. The Solomon Islands Hydrographic Consultative Committee (SIHCC) has been established and now determined priorities for surveys, which included delegates from the provinces. Mr. Olisukulu asked that an amendment to the report be made, that their recent survey of Honiara Port was to update BA chart 1750 and not 1735 as stated in the report. The Solomon Islands would be seeking assistance in the quality control of its survey data.

Solomon Islands would like to send a member of its staff for the 2016/17 FIG/IHO Cat A Hydrographic Surveying Course, but Mr. Olisukulu recognised the need to do the in country preparation necessary for the candidate. Mr. Olisukulu acknowledged SPC's assistance with On the job training during the Vanuatu surveys and for the impending Solomon Islands survey deployment in April 2015.

Mr. Olisukulu highlighted the need to get the boundary with Vanuatu formalised, as well as the extended continental shelf. IHO Membership has been approved by cabinet, with a formal submission been made and Mr. Olisukulu would be following that up. By taking advantage of the Capacity Building programme on offer, Mr. Olisukulu felt that Solomon Islands is in a good position, continuing to move along in its development. He expressed his thankfulness of the support received, and looked forward to the continued technical support.

Cdre. Brace commended Clifford and SIMSA for 'getting things on track' in the Solomon Islands.

UK offered help with planning and conducting surveys of ports/harbours, and offered to support its Nautical Cartographer in the different stages of chart compilation as required to achieve FIG/IHO/ICA recognition standards.

Mr. Greenland also complemented Mr. Olisukulu for his efforts to improve hydrographic services in the Solomon Islands, and encouraged the long term aspiration for training and supported preparing the candidate.

6.14 Vanuatu

Mr. Tony Tevi began the summary of Vanuatu's report ([SWWPHC13-06n](#)) by asking that, since Vanuatu gave permission for the Solomon Islands to join their survey team, so would appreciate a reciprocal invite. Mr. Tevi acknowledged that at the time of SWPHC11, Vanuatu had no hydrographic services. Since that time, the formation of a committee started to get things moving as did the monthly progress reports. Vanuatu would proceed with SWPHC membership. The inter-island shipping project led to a shipping act; which included some reference to hydrography. Mr. Tevi acknowledged improved support from government, with the Deputy Prime Minister coming to show support for survey work. In thanking LINZ for the Risk Assessment model, which took the politics out of decision making, Mr. Tevi said there was now government commitment for wharf upgrades and survey work. Mr. Tevi again expressed thanks to those who had supported Vanuatu,

including NZ, SPC and UK; having done what was asked, Mr. Tevi requested guidance on what the next steps could be.

Mr. Bennett (IALA) queried if the maritime sector regulatory act made responsibilities clear. Mr. Tevi would provide a copy of the draft and appreciated any comments and input. Cdre. Brace also suggested Mr. Tevi look at the Australia Act 223, and reassured Mr. Tevi about the time these documents took.

Capt. Drake praised the way Mr. Tevi had organised SPC to be adopted into the community while in Vanuatu, greatly assisting their work there.

Mr. Mataora commented on the motivation of the friendly rivalry between the Cook Islands and Vanuatu in competing to first achieve maritime milestones. Mr. Ward also praised Mr. Tevi and all those who assisted. While it was good to hear these success stories, Mr. Ward reminded the meeting that this would not have come about without the SWPHC meetings and the commission.

6.15 New Caledonia

Mr Eric Mevelec stated that activities in respect of New Caledonia had been included in France's Report ([SWPHC13-06c](#)).

6.16 Samoa

Capt. Tafai Toilolo summarised Samoa's progress for the meeting. Capt. Toilolo assured the meeting that work was happening, but slowly. As the hydrographic office sat under the CEO of the Ministry of Works, Capt. Toilolo would recommend engagement with the government. Capt. Toilolo acknowledged the ongoing support of New Zealand and SPC.

Cdre. Brace assured Capt Toilolo that a technical visit was planned for Samoa, which Mr. Greenland confirmed would take place within the next twelve months.

6.17 Tokelau

In updating the meeting about Tokelau's progress, Mr. Simona Mei said Tokelau would be under the same NZ risk project as Samoa. He added that Tokelau would plan to upgrade its SWPHC membership in the next five years.

6.18 Tuvalu

Mr. Taasi Pitoi commented that this was the first SWPHC meeting attended by Tuvalu. Realising Tuvalu could not sit and wait for help, Mr. Pitoi recognised Tuvalu would have to start to make progress themselves. He acknowledged the risk of outdated charts and the need to encourage passenger ships to Tuvalu. While Mr. Pitoi acknowledged NZ's support for aids to navigation, he expressed disappointment that Tuvalu was not added to Tokelau's Risk programme.

Cdre. Brace highlighted the need for Tuvalu to attend meetings to ensure they made their needs known. UK stated their intention to request a technical visit to Tuvalu with the Capacity Building funding.

7. Relevant International/Regional Organisations (Observers) Reports and Activities

7.1 SPC (Secretariat of Pacific Community)

The SPC representative, Mr. Salesh Kumar provided an update on the SPC GeoScience Division. Mr. Kumar encouraged states to take advantage of the available capacity and equipment at SPC, which belonged to the wider community. In a recent meeting aligned with the Fijian GIS conference, the Pacific Geospatial & Surveying Council (PGSC) was created, which Mr. Kumar noted gave another forum for Pacific nations to raise their voices. Mr. Kumar's report outlined the various places work had been done, including the large Vanuatu survey. The Vanuatu survey provided challenges due to topography and significant depth changes. Mr. Kumar highlighted to meeting participants how

it was easy to extend the survey scope while the vessel was in the area, funded by Vanuatu government. With the benefits for countries to get work done, Mr. Kumar invited members to take advantage of SPC.

Capt. Drake (Carnival Australia) asked about the Hog Harbour chart, and if it would result in a suitable banded ENC. UK affirmed it would, and congratulated SPC for the data collection and reporting work. Mr. Sewell reminded the meeting of the value of collaboration and involving PCA to get assistance, which helped with processes and collected data onto charts.

Tonga enquired about the vessel availability and cost. SPC responded that the borrower would have to meet the cost of getting the vessel to the site, and for a technician for the duration. While the GeoScience division dealt with the technical side, Mr. Kumar confirmed the Economic Development Division made arrangements.

A query was raised about the programme of IMO audits of Pacific Island Countries, to which SPC stated they were not involved in. After a further question about helping to prepare Island Countries for an audit visit, SPC responded that, as qualified auditors, they could assist if asked and if funding and resources were available.

7.2 International Association of Lighthouse Authorities (IALA)

Mr. Stephen Bennett, Vice Dean of IALA World-Wide Academy, provided a presentation on activities of IALA and the World Wide Academy. The benefits for countries to join, Mr. Bennett informed the group, included support, training and capacity building. Mr. Bennett had met with SPC, and there was a proposal to enhance the provision of regional aids to navigation (AtoN). While enthusiastic about the advantages of the free consultation visit, Mr. Bennett stressed the need to be invited at ministerial level. IALA intended to facilitate the delivery of an 'Aids to Navigation' manager course in Fiji, which could develop a cadre of competent AtoN managers in the region.

Capt. Tioon (Kiribati) requested more information on the capacity building training and, with only two in the region, how else a country could attend. Mr. Bennett responded that anyone could attend. While the courses were not free, for the right person funding could be arranged.

8. SWPHC International Charting Coordination Working Group (SWPHC ICCWG)

Delegates were invited to read the report posted.

9. Capacity Building

Mr. Adam Greenland (SWPHC Capacity Building Coordinator), provided updates on the Capacity Building activities and submissions since the last SWPHC meeting. While encouraging the delegates to review the 'Terms of Reference for CB Coordinators' (published on IHO website) outlining the roles and responsibilities. He reminded the meeting that it was the submitter's responsibility to complete all the information in respect of text (narrative), budget, etc. in respect of a project proposal. The CB Coordinator's role was for advice. The deadline for submissions for the 2016 work plan was April 1, but Mr. Greenland reminded the meeting that these submissions would need to be with the SWPHC Secretariat by March 15 for review which gave time to possibly seek more information.

Mr. Greenland reminded countries that, as per the IHO CB Strategy, Capacity Building Phases 2 & 3 were limited to Member States only, and urged countries to consider taking up membership (of IHO).

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.10	9	Draft CB submissions for consideration by CBSC13, and sent to Chair and CB Coordinator for review.	PCAs and MS	15 March 2015
13.11	9	Submission of SWPHC CB proposals for 2016 to the CBSC Chair and Secretary.	Chair & CB Coordinator	No later than 30 March 2015
13.12	9	Develop draft CB submissions for consideration by CBSC14, and sent to the Chair and the CB coordinator for review.	PCAs and MS	December 2015
13.13	9	Submission of SWPHC CB proposals for 2017 to the CBSC Chair and Secretary.	Chair & CB Coordinator	No later than 28 February 2016

9.1 Capacity Building Work Group Meeting (Jan and Aug 2014)

An electronic copy of the responses from the questionnaire for the Capacity Building Working Group Meeting (January and August 2014) would be sent out with minutes.

9.2 Regional (SWPHC) CB Activities funded through CBSC

The CBSC funded activities carried out in the region since SWPH12 were:

- (i) Technical Visit to the Kingdom of Tonga (18-28 Mar 2014) – This visit by Mr Greenland was part of the Hydrography Risk Assessment for Tonga. Discussions were held with relevant government ministries.
- (ii) Solomon Islands National Hydrographic Capability Development (11-22 Aug 2014) – One cartographic staff who had completed Cat. B Nautical Cartography course was attached to Australian Hydrographic Office (AHO) for 2 weeks to undergo follow-up training and work experience.
- (iii) MSI Regional Training Course (Wellington, NZ, 25-27 Aug 2014) – Attended by 15 participants from the SW Pacific region, and training provide by Australia, NZ and IHO WNWNS Chair.

9.3 IHO CB Activities

These were the 'global' CB activities as advertised through IHO circular letters. Participants from the region were selected to attend the following:

Category B Course in Nautical Cartography (UKHO, Taunton) funded by the Nippon foundation – One staff of Solomon Islands Hydrographic Unit attended.
(3 staff from AHO attended Module 3 of this course)

9.4 Non-IHO CB Activities

Regional participation in non-IHO CB activities was as follows:

- (i) Regional Training Course in Basic Hydrography & Hydrographic Governance (Suva, Fiji – 16-27 Jun 2014) funded by IMO. It was attended by 14 participants from SW Pacific countries. Mr. Greenland reminded delegates that the IMO was active in Pacific region and encouraged delegates to take advantage of their capacity building fund.
- (ii) Activities under 'Capacity Building in Hydrography for Ocean & Coastal Development (SPC member countries)' funded by Australian Agency for International Development:
 - (a) Training of a SPC Hydrographic Surveyor (Cat. B course at RAN Hydrographic School, Sydney) – Apr-Sep 2013
 - (b) Attendance of 2 SPC staff members at SWPHC12 Meeting – Nov 2013

- (c) Procurement of Side-Scan Sonar system for SPC – May 2014
- (d) 3-weeks attachment of SPC Hydrographic Surveyor to the AHO – Nov 2014
- (e) Attendance of 2 SPC staff at SWPHC13 Meeting – Feb 2015.

(iii) Japan International Cooperation Agency (JICA) Category B Hydrographic Surveying course (Tokyo, 3 Jul – 17 Dec 2014)

Three of the eight participants who attended this course were from SW Pacific region, i.e. Kiribati, Papua New Guinea and Vanuatu.

Mr. Greenland stressed the need for the Commission to establish contact with JICA in order to have visibility of the training it offered.

(iv) New Zealand Aid Programme 'South West Pacific Regional Hydrography Programme (SWPRHP)' The NZ Government, MFAT NZ Aid and LINZ are working in partnership with Pacific Island Countries to undertake risk assessments to improve nautical charting to meet needs of contemporary shipping. To date following have been completed:

- (a) Vanuatu Hydrography Risk Assessment
- (b) Tonga Hydrography Risk Assessment
- (c) Cook Islands Hydrography Risk Assessment
- (d) ENCs published for Cook Islands, Tonga, Samoa, Tokelau & Niue.

(v) NZ Pacific Regional Navigation Initiative (PRNI)

The presentation by Mr. David Weinstein (NZ Ministry of Foreign Affairs & Trade) provided details of the hydrographic related work NZ had carried out to date to improve navigation in the Pacific region, as outlined in (iv) above. He added that the five-year NZ\$ 5M Pacific Regional Navigation Initiative (PRNI) development activity will focus on navigation-related aspects of maritime safety. The PRNI will be delivered in partnership with LINZ and SPC. It will involve hydrographic risk assessments, data discovery, capacity building and chart programmes primarily for the Cook Islands, Niue, Samoa, Tonga and Tokelau, where New Zealand is the Primary Charting Authority (PCA). This activity is due to commence in June 2015.

He encouraged PICs, PCAs, IHO, IALA and other SWPHC participants to consider opportunities for partnerships for similar work. MFAT NZ was also looking forward to develop further partnerships for funding through development organisations (e.g. World Bank, Asian Development Bank, EU). Mr. Weinstein reminded delegates that besides surveying, other aspects like aids to navigation, dredging, and shipping lanes that could also assist in making maritime activity safer. Consideration ought to be given on how the private sector could contribute to charting - possibly setting up a consortium fund involving contribution from shipping and other companies, government, and donors. Furthermore it would need consideration on how this would be structured, legality, benefits, branding, etc., and how to decide where the money would be utilised.

Cdre. Brace commended LINZ and MFAT on their support for the region.

9.5 Update on the 5 year Capacity Building Plan (2015-2019)

Mr Greenland stated that the CBSC 12 Meeting held in Brest, France in May 2014 approved funding for all four projects submitted by SWPHC, i.e.:

- (i) Technical Assessment & Advice Visit (Samoa) – Planned for late 2015 / early 2016.
- (ii) Technical Visit to facilitate national Hydrographic Requirements (Vanuatu) – Planned for 2015 summer.
- (iii) Technical Workshop on Hydrography & Hydrographic Governance (in conjunction with SWPHC13) – Completed (held 23-24 Feb 2015)
- (iv) Tides and Water Levels Technical Workshop – Planned for Sep/Oct 2015.

Delegates were asked to consider the activities for 2016 and beyond.

For the workshop to be held in conjunction with next SWPHC meeting in November 2016, Mr. Ward suggested that it be entitled 'Technical Workshop for PICTs in Formulating and Implementing Strategic Development Plans for Hydrography'. It should be a practical workshop, led by the PCAs, to assist PICTs to develop original or improve their existing strategic plans and action plans aiming to consolidate the role of the national hydrographic authority in each PICT. The activities in the workshop could include the PICTs developing specific plans for their countries and also include a practical demonstration of surveying and chart maintenance requirements.

UK endorsed the direction offered by the Mr Ward but suggested that, with two years to go in the planning, to leave flexibility to see how hydrography developed in the region. Mr. Greenland offered to submit the workshop proposal to CBSC13.

Mr. Greenland stated another submission would be MSI Training for delivery in 2016. Being a CB Phase 1 activity the course would be open to all countries i.e. in the region.

Australia and NZ also proposed a Cat. B Nautical Cartography training to be delivered in the region (Australia/NZ) over three years (covering the 3 modules), which would be open to all in region. UK offered training and support through 2016-2018 for the Cat B training, but asked NZ to clarify how the modules would be spread over the years. Mr. Ron Furness (IBSC member) recommended that a compliant course would need to be about 20 weeks in total, which could be phased over three years. In response to UK's enquiry regarding the course's starting point, i.e. whether focus would be: ENC or compilation, Mr Greenland clarified that it is proposed to start with existing Module 1 and building on that.

Mr Sam Harper stated that UK would submit a proposal for a Technical Visit to Tuvalu during summer (May-Aug) 2016.

Capt. John Lowell stated that USA proposed to prepare submission for a Technical Visit to Palau.

Submissions for 2017 would be prepared during the (SWPHC) CB Working Group's workshop in Capacity Building Workshop.

10. Industry / Stakeholders Session (Expert Contributors)

The Chair thanked expert contributors for their support of the Commission.

The presentations were as follows:

10.1 Marico Marine (Mr. John Riding) - 'The Nuts and Bolts of LINZ Hydrographic Risk Methodology'

In presenting the LINZ Hydrographic Risk Methodology, Mr. John Riding also thanked those governments for providing information for the assessment.

Mr. Harper (UK) enquired into the make up of final risk graphic as multi layer risk. Mr. Riding further explained that it was not just chart quality, and the model could be altered to place more weight on, for example, risks of grounding, the type of funding, or change the cost of surveying.

France asked how long assessments took. Mr. Riding suggested about four months of work, including UK GIS work by four or five staff. Mr. Riding cautioned that in each area, sensitivity could be the driver of the risk model, i.e. cultural and environmental risks taken into account.

A further question was asked if where vessel flagged and how it was manned, was taken into account. Mr. Riding responded that the model looked at vessel type and could assess the likelihood of those vessels types having an accident.

10.2 CEE HydroSystems and SIMSA (Mr. David Garforth) - 'Practical aspects of the Honiara Bathymetry Survey June 2014'

Mr. David Garforth's presentation covered the recent delivery of hydrographic equipment to

the SIHU. This equipment included a CEESCOPE 200. This being an integrated data acquisition system bringing together in one compact unit GNSS L1/L2 positioning, dual channel survey echosounder, data logging and a rechargeable power supply; a Panasonic Toughbook field computer complete with HYPACK hydro software; a shallow water STARFISH sidescan sonar and a CEETIDE digital radar tide gauge. This equipment was simple to transport & install and to operate on small on very small vessels of opportunity. There was considerably less chance of errors when compared to complex expensive systems such as multibeam echosounders which required relatively large vessels being mobilised over large distances and requiring specialist trained survey personnel. Mr Garforth pointed out that single beam data could be processed to produce TINs for presentations as digital terrain models with validity of results from either single beam or multibeam being absolutely dependent on the quality of the input data.

Mr Garforth explained that the recent survey of the approaches to Honiara Port was done partly as a training exercise to give confidence in the equipment to the trainees and partly to update the existing chart. The SIHU's small survey boat was used with sounding and sidescan sonar (SSS) systems being run concurrently with all data being synchronized via the HYPACK software. In general, the survey team enjoyed the luxury of only surveying in what might be called perfect weather; this being mainly to ensure the best results from the sidescan sonar 'fish' which was mounted on the same support pipe as the echosounder transducer. This is to say the SSS was not 'towed'. Hull mounting the SSS allowed the survey boat to come into very shallow water along the shore line without recovering the SSS fish when the survey boat was following survey lines perpendicular to the shore line. Shore side survey activities (co-ordination of wharves and jetties, lights and other conspicuous features) was also carried out using the CEESCOPE (with echosounder circuitry turned off). The resultant chart produced from the above survey activities was presented for audience viewing. On a technical note horizontal positioning using the GNS L1/L2 receiver corrected by Fugro's Marinestar RTCM service was better than 0.1 metres, with water depths to 'bar' plate @ 10 metres using an acoustic velocity of 1542 metres per/sec was ± 1 cm.

Mr. Ward requested an estimated cost for the package of equipment, which Mr. Garforth suggested could range from USD16k-36k up to USD120k-135k.

France commented that while the side scan and single beams are easy to work in good conditions, in more challenging environments VAdm. Frachon did not agree the quality would be sufficient. Mr. Greenland commented further that single beam and side scan sonar technology had been used for many years. Although there had been a jump to more modern technology, Mr. Greenland felt that single beam was a good starting technology which would produce worthwhile surveys producing good data for charts.

10.3 IIC Technologies (Mr. Ron Furness) - 'Capacity Building in the Region from IIC'

Mr. Ron Furness presented an overview of IIC Technologies and the opportunities they provided. Mr. Furness commented that portable training delivery compared to in-house differs more on time than anything else.

Mr. Furness also brought to the delegates' attention that there was the Australasian Hydrographic Society's annual Education Award of AUD3.5k open to students studying within a broad range of maritime disciplines. (Details on website: www.ahs.asn.au)

10.4 IALA (Mr. Stephen Bennett) - 'e-Navigation'

Mr. Stephen Bennett spoke about increasing reliance on internet and the expectation of being able to connect 24 hours from anywhere. His presentation covered the IMO, IHO and IALA's commitment to improving navigation safety.

VAdm. Frachon commented further that for maritime safety information, e-Navigation was a good vehicle to change how information was shared and used, including crowd sourcing.

10.5 Fugro (Mr. Hugh Parker) - 'Data Collection Coordination'

In presenting 'Data Collection Coordination', Mr. Hugh Parker also stated he was pleased to hear in the country reports about establishment of many countries' Hydrographic Committees. Mr. Parker enthused how these delegates had already begun connecting with stakeholders who might want hydrographic data. Mr. Ward encouraged delegates of the value of establishing arrangements for stakeholders to meet together.

USA queried how both frequencies fitted, and asked if anyone requested just single data. Mr. Parker responded this was possible and, if only offshore, the collection frequency could be turned off but generally the system operated as continuous system.

France commented that they felt this had huge potential however, if only a small areas were wanted, this would not be cost effective. It would be good to combine areas to share costs and VAdm. Frachon offered assistance with this.

10.6 Kongsberg (Mr. Geir Flugeim Skogen)

Mr. Geir Flugeim Skogen presented an overview of Kongsberg as a company, looking at multi- beam as a data collection tool, and recent developments.

10.7 Carnival Australia (Capt. Mike Drake)

Capt. Mike Drake reminded meeting delegates that the reason for choosing cruising locations was access and hydrographic data, and that the industry was expanding more rapidly than forecast. Capt. Drake encouraged delegates to engage with their governments about the potential of tourism and to invest in hydrographic infrastructure.

UK emphasised that cruise ships had the right to pull out if safety was a risk. Mr. Sewell reminded delegates that surveys had be done correctly, and offered Mr. Harper's assistance. Mr. Ward reiterated the importance of early engagement with the charting authority.

Mr. Greenland reminded the meeting that, while the cruise industry was a significant driver, it was not everything; the drive should be about improving safety for international *and* domestic mariners, as Mr. Greenland suggested that domestic traffic tended to get forgotten, and there was a need to keep people in ferry and cargo ships safe.

11. Novel Data Acquisition Technologies – Update on UKHO SDB Trials

Mr. Sam Harper (UK) presented the findings of UKHO trails of Satellite Derived Bathymetry (SDB). Although the trails were conducted in the Caribbean (Antigua), Mr. Harper felt it was valid for the Pacific region. Although SDB was sensitive to environmental conditions and had a depth extinction of 15m, Mr. Harper felt SDB had potential even if uncertainty could not be modelled. There was currently work being done with data quality and modelling uncertainty.

While SDB had been hailed as a quick, remote answer, Mr. Harper found this not to be the case; their trials took over four months due to weather conditions.

He also confirmed that a paper on the test would be written in due course, however with the technology increasing so rapidly, the end point of the trials was not where Mr. Harper envisioned it would be. More research is envisaged, and there would be papers at the Shallow Survey conference in September 2015.

In response to a query regarding data uses for indirect application, he considered that SDB had a lot of use in other places, as a multi-phased approach for sea bed mapping. Mr. Harper concluded by stating that SDB was good and cheap means for reconnaissance work.

12. Any Other Business

Mr. Gartforth (CEE Hydro Sysytems) inquired about the necessity of having a paper trace on the single beam echo sounder. Cdre. Brace responded that AHS found it was not critical if there were appropriate digital records of QC evidence. Paper traces cost money but it

would be hard to influence other charting authority's requirements for charts, and Cdre. Brace felt that SWPHC could not mandate national policy. Mr. Lowell (USA) pointed out that next generation echo sounders did not have a paper record. UK suggested posing the question to relevant HC. Mr. Greenland felt that, while many echo sounders might not have the ability for paper traces, the trace could be useful for an intuitive feel for data; however others at NZ were committed to digital only. France did not use paper but recorded raw data digitally.

IBSC

Mr. Ron Furness, as a member of the FIG-IHO-ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC), presented a verbal update on the Board. He explained the composition of the Board membership, and informed that the Board met annually as an expert peer review for courses, programmes and publications (S-5 and S-8), and mentioned some of the work currently up for revision. Mr. Greenland added that the Board was focused on updating current pedagogy on learning outcomes rather than competencies.

Mr. Sam Harper reminded delegates of the Shallow Survey Conference in the United Kingdom in September, stating he would like to see representation from the SWP region. Cdre. Brace invited comment about the two submissions for a SWPHC logo. UK nominated the SPC designed logo, which Cook Islands seconded. It was suggested to lighten the compass rose, and simplify the canoe's stick chart for a more simplistic design.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.14	12	Invite IBSC Chair or representative to provide an update (of Board's work) to be added to next SWPHC meeting agenda.	Chair	Month before SWPHC14
13.15	12	Amend design and clarify logos able to be used by SWPHC.	SPC	1 April 2015

13. SWPHC Report to IRCC7

Delegates were invited to discuss the contents of the SWPHC report for the issues and comments needed to be taken forward to IRCC7.

VAdm. Frachon stated that since there was much interest in maritime/hydrographic legislation, IRCC could be the forum to share such information among different commissions and provide a template. He also suggested that this be included in the programme for the Commission's next technical workshop, where the group could be provided sample copies to trigger discussion. Cmdr. Tuita (Tonga) reiterated France's request and added that, since drafting of hydrographic legislation was a barrier and there was a need for assistance, this too be included in the workshop.

Mr. Ward drew the meeting's attention to IHO publication C-16 'National Hydrographic Regulations' which is a compendium of examples of national legislation relating to hydrography. As it was published in 2007 and there has been new information from MS as well as non-MS, Mr Ward suggested that the Commission propose to IRCC that revision and improvement of C-16 be a work item.

Mr. Ward further suggested that while the SWPHC membership and level of participation continued to increase, this was dependent on workshops ahead of meetings. The report to the IRCC7 should also commend the Commission, as Mr. Ward felt that no State was going backwards; Papua New Guinea, Solomon Islands, Fiji, Vanuatu, and Tonga were definitely moving forward. It was further proposed to highlight significant collaboration in the Pacific region, and the cooperation and support of SPC and IALA to raise awareness and to deliver on the ground.

14. Date and Venue of next meeting (SWPHC 14)

VAdm. Frachon proposed New Caledonia as the host of SWPHC14 to be held in October/November 2016, subject to approval by their government. France further proposed a partnership with New Caledonia and SPC, and for the meeting to be held in SPC headquarters in Nouméa. New Caledonia would create a technical committee for the proposal, and would report back to the Chair. SPC would confirm their facility's availability. While it was the host's prerogative to set the date, there were a number of dates in October and November which were suggested to be avoided due to other meetings and conferences.

NZ offered to be a back-up host.

SWPHC13 Action Item	SWPHC13 Agenda Item	SWPHC13 Action	Action by	Deadline
13.16	14	New Caledonia to propose hosting SWPHC 14 Meeting in Nouméa, in partnership with France and SPC. (New Zealand as an alternate)	France, New Caledonia, SPC	No later than March 2016
13.17	14	Secretary to send Host Responsibility document to New Caledonia.	Secretary	15 March 2015

15. Election of Chair and Vice Chair

The Chair invited the Commission to consider nominations for the Chair and Vice Chair, taking into account Article 2 of the SWPHC Statutes.

In acknowledging the skill of the Chair and the Secretary in running the meeting, UK nominated Cdre. Brett Brace of Australia to continue as Chair; Fiji seconded the nomination.

USA re-nominated Mr. Nicholas Pion of Papua New Guinea to continue as Vice Chair, and NZ seconded the nomination.

16. Approval of the Action List

The Action List was reviewed and approved. The complete list can be found in **Annex B** of these minutes.

17. Closing Remarks

President IHO

Mr. Ward hoped that the interest and results shown during the meeting would be taken back home with the participants. Recalling a lack of enthusiasm some years ago, Mr. Ward felt that the SWP commission could now be seen as a model of cooperation. He would be telling others to look to the SWPHC for inspiration in what they could be doing. After thanking the host, Mr. Ward thanked the Chair, on behalf of the participants, for giving them time for expressing their views and adding knowledge. Mr. Ward concluded by commending the participants for what was done at the meeting, what was done before arriving at the meeting, and what would be done in the future.

Chair SWPHC

Cdre. Brace echoed Mr. Ward's sentiment about SWPHC moving forward, and praised the community for their willingness to share. While complementing Samoa's recent signing of the Statutes to become an Associate Member, Cdre. Brace encouraged others to do the same. He was pleased to have seen countries' delegates asking more questions of their governments, departments, and of themselves, about hydrography in the SWP; the community was now using the same 'hydrographic' language. Cdre. Brace again encouraged

the delegates to ensure contact details remained updated so the community could keep in contact. In closing, Cdre. Brace also thanked Mr Mataora as the host, and the support staff at the Edgewater, and said that he looked forward to seeing attendees at the next SWPHC meeting, potentially, in Nouméa.
