

15th MEETING OF THE IHO CAPACITY BUILDING SUB-COMMITTEE
IHO-CBSC15
Paramaribo, Suriname, 7-9 June 2017

REPORT

1. Opening remarks, introductions and administration

The 15th Meeting of the IHO Capacity Building Sub-Committee (CBSC) took place in Paramaribo hosted by the Maritime Authority Suriname (MAS) from 7 to 9 June 2017. The meeting was opened by Mr Michel Amafo, MAS Director, and Mr Thomas Dehling, Chair of the Capacity Building Sub-Committee. The meeting was also attended by the Chair of the MAS Supervisory Board, Mr. Theo Vishnudatt.

Participants performed the national anthem of Suriname and heard wise words from Reverend Ds. M. Veldkamp. Mr. Amafo welcomed the participants and highlighted the opportunity to MAS to strengthen the national capacity, to network with participants and to liaise with the neighboring countries.

The Chair welcomed the participants and expressed the benefits of having a meeting in the MACHC, one the regions where the IHO puts a lot of efforts. He also thanked the hosts for the solid preparation for the meeting, noted the progress made in Suriname to strengthen the Maritime and Hydrographic capacities working together.

The Chair also highlighted the importance of the presence of IALA joining forces to "deliver as one". Mrs Gerardine Delanoye and the trainees of the IALA Aids to Navigation Manager Course attended some sessions of the meeting.

2. Approval of Agenda

Doc: CBSC15-02 Agenda and Timetable (Chair)

Participants were invited to comment the agenda and timetable. Agenda was adopted.

3. Matters arising from Minutes of CBSC14 Meeting

Docs: CBSC15-03A Minutes of CBSC14 (Chair)

CBSC15-03B Status of Action List from CBSC14 (IHO Sec)

Participants reviewed and approved the CBSC14 Minutes and List of Actions.

4. Reports by the Chair and the IHO Secretariat

Docs: CBSC15-04A Report by the Chair (Chair)

CBSC15-04B Report by the IHO Secretariat (IHO Sec)

The Chair introduced report (*doc. CBSC15-04A*) and started by assessing the impact of the IHO CB Strategy in planning and executing the CB Work Programme (CBWP). He stressed the urgent need for additional support from the Secretariat due to the continued increase in the level of CB activities in the past five years, the smooth execution of the 2016 CBWP due to the maturity of the processes, the good preparation of the CB Coordinators, the correct and timely provision of documents and the good support from the IHO Secretariat.

The Chair noted the extraordinary and generous contributions from Republic of Korea and the Nippon Foundation of Japan which has been a major factor in the success of CB. He also reported on the cancelation of the planned CB meeting of the IHO, IMO, WMO, IOC, IALA,

IAEA and FIG that should have happened at the IMO and the next meeting to be held at the IALA Headquarters. He also stressed that the success of comprehensive projects depends on good cooperation and that the IMO Member States that are not IHO Member States are now in disadvantage without support for Phase 2 (Surveying) and Phase 3 (Charting).

He invited the CBSC to consider the need to further improve the execution of technical visits, the production of the visit reports and the development of the CB Procedure 9 on technical visits. It was noted the need for Members to engage at national level to attract available expertise for the development of comprehensive projects, the second CB Stakeholders' Seminar planned for 2019 and how to include and extend contributions from developed Member States to CB.

The Secretary introduced the IHO Secretariat Report (*doc. CBSC15-04B*) and informed the meeting on the impact of the entry into force of the Amendments to the IHO Convention to the work of the CBSC, in particular that matters submitted to the IRCC will be reported to the Council that will then refer endorsed proposals for adoption either to the Assembly or to the Member States through correspondence, the change in the planning cycle for the IHO work programme and budget, the simplified process for coastal States to join the IHO and the voting process by correspondence. He also informed the meeting on the status of the IHO Membership and the need to convey the message to join the IHO when delivering CB activities to non-Member States and emphasized the International Hydrographic Review (IHR) as a tool to promote CB.

The meeting discussed the impact of the lack of participation of the IMO in joint activities with the IHO and agreed on the following decision and action:

Decision 1: to note the reports under agenda item 4 (*docs. CBSC15-04A and CBSC15-04B*).

Action 1: Secretary to write to the CB Coordinators the history of cooperation with the IMO (papers) and the actions requested for interacting with their maritime authorities (deadline: June 2017).

5. Regional Assessment of CB Activities

5.1 Reports of the Regional Hydrographic Commissions (RHC)

<i>Docs: CBSC15-05.1A</i>	<i>NSHC Report</i>
<i>CBSC15-05.1B</i>	<i>MBSHC Report</i>
<i>CBSC15-05.1C</i>	<i>BSHC Report</i>
<i>CBSC15-05.1D</i>	<i>USCHC Report</i>
<i>CBSC15-05.1E</i>	<i>EAHC Report</i>
<i>CBSC15-05.1F</i>	<i>EAtHC Report</i>
<i>CBSC15-05.1G</i>	<i>SEPRHC Report</i>
<i>CBSC15-05.1H</i>	<i>SWPHC Report</i>
<i>CBSC15-05.1I</i>	<i>MACHC Report</i>
<i>CBSC15-05.1J</i>	<i>SAIHC Report</i>
<i>CBSC15-05.1K</i>	<i>NIOHC Report</i>
<i>CBSC15-05.1L</i>	<i>RSAHC Report</i>
<i>CBSC15-05.1M</i>	<i>SWAtHC Report</i>

RHC Members and CB Coordinators were invited by the Chair to update the meeting on the status of C-55, report on visits (high-level, technical and follow-up) and report on courses, workshops and seminars.

a) CBSC15-05.1A NSHC Report

The NSHC (and also NHC and ARHC) CB Coordinator presented an oral report and informed the meeting on the support provided by Norway to Albania with scholarship for a Category "A" hydrographic education, support for ENC production and employing one dedicated staff Mr. Noralf Slotsvik. He also expressed that Norway plans to provide the same level of support to Montenegro and reported the support provided by PRIMAR in ENC production for developing countries.

b) CBSC15-05.1B MBSHC Report

The CB Coordinator (Turkey) introduced the report (*doc. CBSC15-05.1B*) and presented the CB activities in the region since the last meeting and the plans for the 2017 activities and the arrangements to hold the activities in the low season in order to make best use of the resources.

c) CBSC15-05.1C BSHC Report

The Chair presented an oral report about the activities in the region that can have a potentially beneficial impact elsewhere, like the FAMOS Project funded by the European Union (EU) and by EU Member States, led by Sweden using project experts from government agencies. He highlighted that the use of such experts can eventually be found in other Member States for the benefit of the IHO CB activities.

He also reported on the progresses done in Lithuania in raising awareness of the importance of being an IHO Member State and on the provision of hydrographic services. The meeting agreed on the following actions:

Action 2: Chair to provide the FAMOS documents and references for the CBSC Members (done during the meeting).

Action 3: Secretary to upload the FAMOS documents and references to the IHO website (deadline: June 2017).

d) CBSC15-05.1D USCHC Report

The USCHC CB Coordinator introduces the report (*doc. CBSC15-05.1D*) and informed the meeting on the creation of the Canadian Ocean Mapping Research and Education Network (COMREN) that will be reported at agenda item 6. He also reported on the second Chart Adequacy Evaluation Workshop by NOAA, University of New Hampshire (JHC), and GEBCO co-sponsored by the UKHO with 15 participants from 13 nations attending. The workshop provided training regarding a chart adequacy assessment procedure using automatic-identification system (AIS) data and satellite-derived bathymetry (SDB).

The meeting received the notice that the third Chart Adequacy Evaluation Workshop will be held on 11-13 July 2017 with the participation from Argentina, Egypt, Israel, Japan, Russia, Philippines, Panama, Nigeria, Thailand, Madagascar, Mauritius and Spain.

He noted that NOAA also provided ENC training to Israel (Survey of Israel) and Denmark (Danish Hydrographic Office). The meeting was also informed on the hydrographic training and education programmes available in USA with two IBSC-recognized Category "A" and one Category "B" programmes, and the two new Category "B" trainings in Nautical Cartography at NOAA and NGA starting in 2017.

He also reported on the new annual event in collaboration with GEBCO and the Cartography and Geographic Information Society (CaGIS) to promote nautical cartography and the open house event on Nautical Cartography, both held in conjunction with the 2017 International Cartographic Conference (ICC). He also noted the preparation for the forthcoming technical

visit to Haiti by NGA, SHOM (France) and DHN (Brazil). The meeting agreed on the following action:

Action 4: USCHC to report the outcomes of the Nautical Cartography events taking place during the 2017 International Cartographic Conference (ICC) to CBSC (deadline: CBSC16).

e) CBSC15-05.1E EAHC Report

The EAHC CB Coordinator introduced the report (*doc. CBSC15-05.1E*) and informed the meeting on the work of the EAHC Training, Research and Development Centre (TRDC) and the recently conducted SWOT analysis for long term plan to identify strengths, weaknesses, opportunities and threats faced in the region. He also reported the CB activities in the region funded by the IHO and by other agencies.

f) CBSC15-05.1F EAthC Report

The EAthC CB Coordinator introduced the report (*doc. CBSC15-05.1F*) and reported the current challenges in the region with increasing maritime activities with consequent urgent need to increase hydrographic capabilities, the need to improve the maritime geospatial knowledge, improve the access to relevant training and to find means to enable trainees to put in practice the training received, in particular with respect to the lack of equipment.

The meeting was informed on the outcomes of the participation of EAthC and IHO representatives to the Extraordinary Summit of the Assembly of the African Union on Maritime Security, Safety and Development in October 2016 in Lomé, Togo, and on the recent Technical Visit to Cabo Verde in March 2017, following a country request to the IHO for the preparation to the IMSAS (IMO Member State Audit Scheme). The CBSC supported this extraordinary submission that was approved intersessionally.

He also reported the IHO experimentation on e-learning developed by SHOM (France) and CIDCO (Canada) initiated in 2016, aiming at improving the access to maritime safety information (MSI) knowledge through distance-learning methodologies. The first step was the development of francophone e-learning material based on regular maritime safety information academic courses and the delivery of the e-learning platform in April 2017. This is a 5-week tutored training delivered in May/June 2017 with 13 trainees from Côte d'Ivoire, Gabon, Guinea, Togo, Haiti, Comoros, IALA and IHO.

The meeting noted the participation of the EAthC CB Coordinator in the WWNWS8 meeting in Alesund in September 2016, as a consequence of Action CBSC14/36. During that meeting a dedicated CB session was organized to address challenges and to improve the cooperation between WWNWS and CBSC, including delivery of courses, preparation of instructors, growing need for training and use of e-learning and blended-learning tools.

Lastly, the EAthC CB Coordinator reported on his participation to the 4th IOCAFRICA Conference in March 2017 in Alexandria, Egypt, and to the CIDCO Conference in May 2017 in Rimouski, Canada, to present the outcomes and concepts of the HydroMAOC definition study supported by IHO in 2016.

g) CBSC15-05.1G SEPRHC Report

The representative of the SEPRHC CB Coordinator introduced the report (*doc. CBSC15-05.1G*) and informed the meeting on the status of CB Phase Stage of coastal States in the region, the activities executed after the last meeting, the planned activities for 2017 and the cooperation with the neighboring regions (SWAtHC and MACHC).

He highlighted the challenges in the region with increasing levels of required hydrographic services by the maritime community and governmental agencies, for more diversified number

of products to improve the efficiency and safety of their activities. In order to fulfill such requirements, Member States are challenged to improve their technical capabilities to operate hydrographic equipment and software for data collection and processing, to improve the marine geospatial information infrastructure and to provide quality assurance for their ENC's.

The meeting discussed the difficulties in having the CB coordinator rotating with the Chair and the risks to the region, and considered ways to raise awareness of the importance of Hydrography in Panama. The following actions were agreed:

Action 5: SEPRHC to consider inviting Panama for the SEPRHC13 meeting (deadline: July 2017).

Action 6: SEPRHC to consider having a permanent CB Coordinator in the region (deadline: August 2017).

h) CBSC15-05.1H SWPHC Report

The representative of the SWPHC CB Coordinator introduced the report (*doc. CBSC15-05.1H*) and reported the status of CB Phase Stage of coastal States in the region, the activities executed since the last meeting, including technical visits to Samoa and Tuvalu, a MSI workshop and a technical workshop for the Pacific Islands, Countries and Territories (PICT). He particularly noted the importance of having technical workshops preceding the RHC Conferences in order to attract and support participation from developing countries.

He also informed the meeting on the planned CB activities for 2017 and the continuation of the New Zealand (NZ) Pacific Region Navigation Initiative (PRNI), a 5-year programme focusing on navigation-related aspects of maritime safety in a partnership between NZ Ministry of Foreign Affairs and Trade (MFAT), Land Information NZ (LINZ) and the Pacific Community (SPC).

The meeting was informed on the PRNI five output areas Pacific-wide Data Discovery, Hydrography Risk Assessments (Niue, Samoa and Tokelau), Capability/Capacity Building, Mitigation Measures and Pacific-wide Partnerships. Achievements related to PRNI strongly contribute and are aligned to the IHO CB activities.

He also stressed the challenges faced in the region with its large geographical extent and associated high costs of travel and limited opportunities for meetings, the limited capacity of the Capacity Builders and the increasing, potentially too much, requests to the RHCs and RHC Chairs which then impacts delivery of their own HO and RHC based activities. He also stressed the need for additional support from the IHO Secretariat for CB-related activities.

The meeting noted that all PICTs have made progress on hydrographic activities, and in the case of Fiji, Papua New Guinea, Solomon Islands, Tonga and Vanuatu it has been significant. Vanuatu became an IHO Member in 2017 and Solomon Islands is in the process of becoming a Member. Samoa, Vanuatu and Cook Islands established their National Hydrographic Coordinating Committee.

It was also noted that NZ developed a GIS-based risk assessment methodology to determine surveying and charting priorities, and to date has effectively used this for work in the Cook Islands, New Zealand, Niue, Tonga and Vanuatu. NZ Risk Assessment and PRNI will be further considered under agenda item 6.

The meeting was informed on the inability of Solomon Islands to recruit a new cartographer and thus the impossibility of executing activity P-5 of the 2017 CBWP. The meeting agreed on the following decisions:

Decision 2: to cancel activity P-5 of the 2017 CBWP. CB Coordinator consider submitting a new proposal when a new cartographer is recruited.

Action 7: Secretary to update the 2017 CBWP to reflect Decision 2 (deadline: June 2017).

Decision 3: to note the value and effectiveness of preceding RHC meetings with CB-related workshops.

Decision 4: to note SWPHC's commitment in carrying forward hydrographic, nautical cartographic and capacity building activities in close alignment with IHO objectives and goals.

i) CBSC15-05.1I MACHC Report

The MACHC CB Coordinator introduced the report (*doc. CBSC15-05.1I*) and reported the changes in the 3-year Work Plan, the activities executed since the last meeting, the cooperation with the Mexican FOCAHIMECA project and with the neighboring RHCs (SEPRHC and SWAtHC), and the planned activities for 2017, including two technical visits to Dominican Republic and El Salvador.

j) CBSC15-05.1J SAIHC Report

The SAIHC CB Coordinator introduced the report (*doc. CBSC15-05.1J*) and reported the changes in the 3-year Work Plan, the activities executed since the last meeting and the planned activities for 2017.

k) CBSC15-05.1K NIOHC Report

The NIOHC CB Coordinator introduced the report (*doc. CBSC15-05.1K*) and reported the changes in the 3-year Work Plan, the activities executed since the last meeting, the cooperation with the neighboring RSAHC and the planned activities for 2017, including a technical visit to Seychelles.

l) CBSC15-05.1L RSAHC Report

The RSAHC CB Coordinator introduced the report (*doc. CBSC15-05.1L*) and reported the changes in the 3-year Work Plan, the activities executed since the last meeting, the cooperation with the neighboring NIOHC and the planned activities for 2017. The meeting was also informed that the current CB Coordinator, Mr. Jeff Bryant, will step down as RSAHC CB Coordinator soon and be replaced by either Oman or Pakistan.

m) CBSC15-05.1M SWAtHC Report

The SWAtHC CB Coordinator introduced the report (*doc. CBSC15-05.1M*) and reported the outcomes of the activities executed since the last meeting, the cooperation with the neighboring regions (SEPRHC and MACHC) and the planned activities for 2017 and 2018. He also informed on the support provided by Brazil to Mozambique and Namibia, the MoU signed between Brazil and Suriname and the new fully equipped survey boat received by Brazil for use by the Brazilian Hydrographic School.

Decision 5: to note the reports under agenda item 5.1 (*docs. CBSC15-05.1B, CBSC15-05.1D, CBSC15-05.1E, CBSC15-05.1F, CBSC15-05.1G, CBSC15-05.1H, CBSC15-05.1I, CBSC15-05.1J, CBSC15-05.1K, CBSC15-05.1L and CBSC15-05.1M*).

5.2 Update and closure of the 2016 CBWP

Doc: CBSC15-05.2 Closed 2016 CBWP

Secretary introduced the 2016 CBWP (*doc. CBSC15-05.2*) and acknowledged the efforts from CB Coordinators and Project Leaders in complying with the CB Procedures and in executing the activities in an optimal way. The Chair invited participants to comment and eventually

update the 2016 CBWP. No additional input was provided for the 2016 CBWP (**Annex A**) and the meeting agreed on the following decisions:

Decision 6: to acknowledge the generous in-kind support from Member States and Industry for the execution of the 2016 CBWP.

Decision 7: to acknowledge the work of the RHC CB Coordinators and Project Leaders for the efficient and successful execution of the 2016 CBWP.

6. Regional and national projects for CB

Docs: CBSC15-06A Risk Assessment (SWPHC)

CBSC15-06B Development of Hydrographic Capabilities (Italy)

CBSC15-06C The Canadian Ocean Mapping Research and Education Network (Canada)

CBSC15-06D IALA AtoN Manager Course (Suriname)

CBSC15-06E Definition Study for Long Term Project (EAtHC)

CBSC15-06F TRDC Developments (EAHC)

The Chair invited reports and presentations on ongoing developments in regional and national projects related to CB.

a) SWPHC (Risk assessment)

Australia, on behalf of NZ, presented an update on risk assessment and the PRNI and the highly relevant achievements in the region, with risk assessment and cost-benefit analysis performed for Vanuatu, Cook Islands, Tonga, Niue, and New Zealand, and planned for Samoa, Tokelau, Kiribati and Tuvalu.

He also reported on the open source risk assessment tools under development and the coming test with the Samoa risk assessment. This tool will be made available at a later stage. The meeting agreed on the following decision:

Decision 8: to acknowledge the work done by NZ in the SWPHC with the risk assessments and the PRNI Programme.

b) Italy (Capacity Building Activities)

Italy introduced the report (*doc. CBSC15-06B*) and informed the meeting about the CB initiatives performed by Italy in the past and the possible CB contributions from Italy in the wide Mediterranean Sea. He noted the participation of foreign students from nine coastal States in the Category "A" and Category "B" hydrographic education programmes, the support for on-the-job trainings abroad. He also presented a case study for the establishment of a hydrographic service in Uganda where significant inland navigation occurs, supported by the Italian Navy Hydrographic Institute.

c) Canada (The Canadian Ocean Mapping Research and Education Network - COMREN)

Canada introduced the report (*doc. CBSC15-06C*) and presented the mission of the Network which includes the development of research activities, technology transfer to Industry, development and running of educational programmes related to Ocean Mapping, in liaison with government agencies. This includes opportunities for High Qualified Personnel (HQP) to develop their capacity in, and specialized knowledge of, ocean mapping.

The focus is to provide a collaborative environment for enhancing research activities, for sharing educational curriculum, and to address key research questions of interest to the hydrographic and ocean science community. A priority for COMREN is to work closely with the Canadian Hydrographic Services (CHS) and Natural Resources Canada (NRCan) to identify

and engage in relevant ocean mapping activities associated with various leading-edge initiatives.

He also presented a summary of expertise and capacities of each participant of the programme. The meeting noted the raising number of IBSC recognized programmes and scheme in Canada and the opportunities in the openings for navigation in the Arctic. Participants also agreed that it is necessary for a Hydrographic Service to go beyond CB Phase 3 by engaging with academia, government and Industry in order to contribute to the national infrastructure and to continue to be relevant for the country.

d) Suriname (IALA AtoN Manager Course)

Suriname introduced the report (*doc. CBSC15-06D*) and presented motivation for MAS to engage with IALA and hosting this unique course in the Americas to deliver level 1 Manager training, and how this engagement led to the establishment of the Suriname AtoN Academy (SAA). The first course was organized overlapping with the CBSC15 meeting in order to have the contribution from CBSC Chair, UK (Mr. Jeff Bryant) and the CBSC Secretary in presenting key aspects of safety of navigation from the IHO perspective. This also allowed the IALA instructor and trainees to participate in some sessions of the CBSC15 meeting in order to understand the work of the sub-committee that can be beneficial for their countries.

e) EAthC (Definition Study for a Long Term Project)

France introduced the report (*doc. CBSC15-06E*) and presented to the meeting the general approach of the HydroMAOC Project (OMAOC stands for *Organisation Maritime de l'Afrique de l'Ouest et du Centre*), the analysis of the needs, the CB requirements and the implementation process. He reported on the liaison initiated by the French Ministry of Environment with the World Bank with a MoU signed in April 2016. This MoU provides assistance from France to WACA (Western Africa Coastal Areas), a 400 million US dollar programme that addresses the Western African coastal domain from coastal hazards risk reduction to Blue Economy Development for the Western African region. Recently, Shom has received 200 k€ for a 4 years data rescue project aiming at digitalizing its hydrographic archives on Senegal, Benin and Togo and turning them into end user products. The participation to such a regional programme has also given the opportunity to use the HydroMAOC study guidance and principles at some stage, as another France funded project is under preparation, including skill transfer and expertise sharing on hydrographic aspects such sea level observation and bathymetric surveys.

The EAthC CB Coordinator concluded by inviting the CBSC to consider ways to liaise with more funding agencies through targeted visits to donor agencies and to maintain dialogue with the World Bank.

He also expressed the views to practice other ways of addressing the need to develop hydrographic capabilities in the region by using business plan methodologies with targeted coastal States and morphological analysis to build up scenarios. He highlighted the need to explore ways to develop mentoring and tutoring in West-Central Africa and to develop a regional training center in the region.

The meeting noted the positive impact made by the project and agreed on the following decision and actions:

Decision 9: to acknowledge the contribution from France as a force multiplier for the EAthC Definition Study (HydroMAOC).

Action 8: France to provide presentations about the HydroMAOC to the Secretary (deadline: June 2017).

Action 9: Secretary to upload the HydroMAOC presentations to the CB web pages (deadline: June 2017).

f) EAHC Training, Research and Development Centre (TRDC)

Republic of Korea introduced the report (*doc. CBSC15-06F*) and presented the views from EAHC on the need to develop internal training programmes in each of its coastal States while facing limited human resources to provide training in a sustainable way, having to surpass the language barrier as trainings are in general provided in English, and the need for standardized trainings.

This environment led to the creation of the EAHC-TRDC that is governed by a board of directors, located in Busan (ROK). The support from the TRDC is done locally in the premises and via the website. The fundamental role is to provide Training for Trainers (TFT) in basic hydrography and in foundation cartography. The trainees then multiply the knowledge in their home countries by training staff in the native language.

Another element of the TRDC is the provision of e-learning courses in the region but the opening to other RHCs is being considered. The provision of Maritime Safety Information (MSI) is currently under consideration. TRDC also provides Category "B" programmes in Nautical Cartography and Hydrography offered via the annual IHO CBWPs.

The meeting considered the positive impact of the TRDC in EAHC and agreed on the following action:

Action 10: EAHC/TRDC to consider inviting Member States from other regions to attend the TFT course in 2019 (when appropriate).

g) UK (OECS and CME Projects)

UK introduced the report (*doc. CBSC15-06G*) and presented the Scoping Study element of the OECS (Organization of Eastern Caribbean States) project featured technical visits to all members to assess the status of the national SDI, to identify data gathering requirements and to strengthen regional hydrographic governance. He informed the meeting that since these technical visits the UK's CME (Commonwealth Maritime Economies Programme) and OTsSMP (the Overseas Territories Seabed Mapping Programme) have been initiated which have impacted on the OECS project.

He noted that the OECS Project is being refined to take into account the work completed under the CME and OTsSMP Projects in order to avoid duplications and to optimize the work and that it is anticipated that a significant amount of the survey can be delivered over the next few years. A significant amount of work is being put into identifying opportunities for collaboration with the World Bank Caribbean Regional Oceanscape Project (CROP).

The CME Programme was presented and the UKHO is in the process of identifying a portfolio of Year 2 projects and is looking at opportunities to collaborate and augment IHO CB activities. For the OTsSMP, a survey of the entirety of Anguilla's optically shallow waters was conducted and the majority of OTs have received a technical visit or desk assessment and the remaining OTs will have this completed soon. The survey programme will see a further 3 OTs surveyed this year and the programme will also include Capacity Building in Hydro Governance.

IALA informed that there is a permanent position for AtoN in the Pacific Community (SPC) and a position is planned for the OECS in the near future. The meeting considered the positive outcomes and expected impacts from these projects and agreed on the following decisions and actions:

Action 11: UK to update C-55 of the OECS Members and of the OTs, including the CATZOC shapefiles and report back to the CBSC (deadline: CBSC16).

Action 12: UK to expand the information about the OECS, CME and Overseas Territories Seabed Mapping Programme to the CBSC15 (done, *doc. CBSC15-06G*).

Decision 10: to acknowledge the work done by the UK on CMEP, OECS and OTsSMP Projects.

Decision 11: to note the reports under agenda item 6 (*docs. CBSC15-06A, CBSC15-06B, CBSC15-06C, CBSC15-06D, CBSC15-06E, CBSC15-06F and CBSC15-06G*).

7. Outcomes of the 1st Session of the IHO Assembly and the Strategic Issues of the CBSC

Docs: CBSC15-07A List of Decisions from A-1 (IHO Sec)
CBSC15-07B IHO Capacity Building Strategy (IHO Sec)
CBSC15-07C Proposal to amend the IHO CB Strategy (France)
CBSC15-07D Draft amended IHO CB Strategy (CBSC15)

The Chair informed the meeting on the outcomes of the 1st Session of the IHO Assembly and the list of decisions (*doc. CBSC15-07A*), in particular Decision 16 on PRO-2 regarding e-learning. He also described the main parts of the IHO CB Strategy (*doc. CBSC15-07B*) recalling that e-Learning is already mentioned in the current version. The meeting considered that the CB Strategy is fit for purpose and agreed not to amend the Strategy at this stage.

France introduced the proposed amendments to the IHO CB Strategy (*doc. CBSC15-07C*) and the meeting considered that e-learning is a useful tool for providing training and preparation for trainings, but underlined that there are limitations in delivering competencies and that the cost for development of e-learning content is substantial.

The meeting considered whether IRCC could be requested to provide additional resources for the development of an e-learning platform operated by the Secretariat Staff but concluded that it is not in the remit of the IHO to run e-learning courses. Participants also expressed concerns related to the infrastructure of the recipient countries (like computer resources and internet connection bandwidth).

The meeting agreed that e-learning is one of the tools for delivering CB and there is room for further improvements in the CB Strategy text to highlight the importance of e-learning. France, Norway, UK and USA were tasked to work on the amendments proposed by France to the IHO CB Strategy.

The final aspect was how to get additional funds to progress the development of e-learning (platform and content) to deliver the necessary competencies. The meeting agreed that the IHO should concentrate on MSI and basic training leaving more complex courses to other e-Learning experienced institutions.

The meeting agreed the following decisions and actions:

Decision 12: to acknowledge the remarkable development of the e-learning platform for the delivery of MSI content to Francophone Africa led by France with CB Fund support with potential for other regions and with other contents.

Decision 13: to draft an amended version of the IHO CB Strategy taking into consideration the discussions during CBSC15 and keep it as a working document to be submitted to the Council at a later stage.

Action 13: France, Norway UK and USA to draft an amended version of the Strategy in line with Decision 13 (done during the meeting, *doc. CBSC15-07D*).

Action 14: Chair to address the outcomes of the meeting regarding A-1 Decision 16 on PRO-2 and the proposed line of action during IRCC (deadline: IRCC9).

Action 15: CB Coordinators to promote the delivery of the MSI content via e-learning in all RHCs in need (permanent).

Decision 14: to note the reports under agenda item 7 (*docs. CBSC15-07A, CBSC15-07B, CBSC15-07C and CBSC15-07D*).

8. Operational Issues of the CBSC

8.1 Draft CB Procedures 9, 10, 11 and 12

Docs: CBSC15-08.1A Draft CB Procedure 9 on Technical Visits (IHO Sec)

CBSC15-08.1B Draft CB Procedure 10 on the CB Management Plan (IHO Sec)

CBSC15-08.1C Draft CB Procedure 11 on the Assessment of the Status of CB Phases (UK)

CBSC15-08.1D Draft CB Procedure 12 on a Certificate for the Completion of CB Activities (UK and IHO Sec)

Secretary introduced the draft revised CB Procedures 9 on Technical Visits (*doc. CBSC15-08.1A*), 10 on the CB Management Plan (*doc. CBSC15-08.1B*), 11 on the Assessment of the Status of CB Phases (*doc. CBSC15-08.1C*) and 12 on the certificate for the completion of CB activities (*doc. CBSC15-08.1D*) and informed the meeting that these drafts were considered at CBSC14 and kept as draft for testing before approval.

The meeting considered the benefits of having such procedures but agreed on the need to further improve the draft Procedure 9 to incorporate experiences and lessons learned and the model of the certificate at draft Procedure 12. The meeting agreed the following actions and decisions:

Action 16: Vice-Chair and Secretary to get feedback from the recent visiting teams and liaise with Norway and UK to submit a draft Procedure 9 to CBSC16 considering the need for self-assessment prior to the visit, reference to the IMSAS questionnaire, development of checklists and the access of the existing knowledge in the Secretariat by the Project Leader (deadline: CBSC16).

Action 17: Secretary to investigate the use of the CIS and the CBMS to provide the existing knowledge on the countries to be visited for the Project Leader prior to the visit (deadline: CBSC16).

Action 18: CB Coordinators that not have done so to provide the assessment on the status of CB Phases (Procedure 11) to the Secretary (deadline: October 2017).

Action 19: Secretary to improve the format of the certificate model in Procedure 12 before publishing it (deadline: July 2017).

Decision 15: to approve the CB Procedure 10 (*CB Management Plan*) to enter into force immediately.

Decision 16: to approve the CB Procedure 11 (*Assessment of the Status of CB Phases*) to enter into force immediately.

Decision 17: to approve the CB Procedure 12 (*Certificate for the Completion of CB Activities*) to enter into force immediately.

Action 20: Secretary to publish the CB Procedures 10, 11 and 12 after completion of Action CBSC15/19 (deadline: July 2017).

8.2 CB Management System update

Doc: CBSC15-08.2 CB Management System update (ROK)

ROK introduced the report (*doc. CBSC15-08.2*) and highlighted the key issues for the continuing development of the CB Management System. The idea is to streamline the work of the CBSC, CB Coordinators, Project Leaders and Secretariat based on the CB Procedures, with a web-based system for processing and sharing information in an optimal way.

He informed the meeting that prototype is ready and being tested by the Secretariat with the submissions for CBSC15 and the plan is to have an operational system in time for the CBSC16 meeting. Participants considered the very positive impact of such system with a potential reduction of the workload and increased outcomes. The meeting agreed then on the following decisions:

Decision 18: to acknowledge the work done by ROK for the development of the CB Management System.

8.3 C-55 Status and Developments

Doc: CBSC15-08.3 C-55 Status and Developments (IHO Sec)

IHO Secretary presented the status and developments of the IHO Publication C-55 *Status of Hydrographic Surveying and Nautical Charting Worldwide* (*doc. CBSC15-08.3*) that is now continuously updated from the IHO Country Information System. C-55 output in PDF format is accessible from the IHO website and via the IHO/GIS for the Secretariat.

The meeting noted the new format that is presented in graphical format which is visually more attractive and easy to use.

8.4 Performance Indicators and Statistics

Docs: CBSC15-08.4 Performance Indicators (Chair)

Chair introduced the updated CB-related Performance Indicators and Statistics in accordance with the amended IHO Strategic Plan (2017). The meeting noted that some of the Statistics are incomplete as there were no resources available in the Secretariat for assessing the reports.

8.5 National Hydrographic (Coordinating) Committee (NHC/NHCC)

Docs: CBSC15-07B IHO Capacity Building Strategy (IHO Sec)

The Chair reported on the importance of the establishment of the National Hydrographic (Coordinating) Committee (NHC/NHCC) based on the IHO CB Strategy (*doc. CBSC15-07B*) and participants considered the benefits of having the NHC as a strategic objective for the development of national hydrographic infrastructure.

In order to be consistent with the CB Strategy and with Procedures 9 and 11, the meeting considered that countries with a NHC should have higher priority than those that do not have one. This could be done by means of including this factor in Procedure 4 in order to establish the priority in the Management Plan and in the annual CBWP. The meeting then agreed on the following action:

Action 21: Secretary to prepare a draft revised Procedure 4 taking into account the existence of the NHC in the countries to be supported and submit to CBSC (deadline: CBSC16).

8.6 Review of the 3-year RHC Work Plans 2018-2020

*Docs: CBSC15-08.6A MBSHC 3-year Work Plan
CBSC15-08.6B EAHC 3-year Work Plan*

CBSC15-08.6C EAthC 3-year Work Plan
CBSC15-08.6D SEPRHC 3-year Work Plan
CBSC15-08.6E SWPHC 3-year Work Plan
CBSC15-08.6F MACHC 3-year Work Plan
CBSC15-08.6G SAIHC 3-year Work Plan
CBSC15-08.6H NIOHC 3-year Work Plan
CBSC15-08.6I RSAHC 3-year Work Plan
CBSC15-08.6J SWAtHC 3-year Work Plan

CB Coordinators introduced the 3-year CB Work Plans for their regions and highlighted some minor changes in their plans.

8.7 Discussion on Operational Issues

The meeting briefly considered the above issues and highlighted the immediate need for additional support in the Secretariat for CB activities. The meeting agreed on the following decision:

Decision 19: to note the reports under agenda item 8 (*docs. CBSC15-08.1A, CBSC15-08.1B, CBSC15-08.1C, CBSC15-08.1D, CBSC15-08.2, CBSC15-08.3, CBSC15-08.4, CBSC15-08.6A, CBSC15-08.6B, CBSC15-08.6C, CBSC15-08.6D, CBSC15-08.6E, CBSC15-08.6F, CBSC15-08.6G, CBSC15-08.6H, CBSC15-08.6I and CBSC15-08.6J*).

9. CB Management

9.1 Update of the 2017 CBWP

Doc: CBSC15-09.1 Updated 2017 CBWP (IHO Sec)

Secretary introduced the Updated 2017 CBWP (*doc. CBSC15-09.1*) that was updated by the meeting (**Annex B**), with the following decisions and action:

Decision 20: to cancel the activity P-25 of the 2017 CBWP as Solomon Islands did not succeed in attracting a new cartographer.

Decision 21: to issue a revised version of the Updated 2017 CBWP (Annex B).

Action 22: Secretary to publish the 2017 CBWP in the IHO website (deadline: July 2017).

9.2 Finance Report

Doc: CBSC15-09.2 Finance Report (IHO Sec)

Secretary introduced the CB Finance Report (*doc. CBSC15-09.2*) highlighting the resources available in the 2016 and 2017 CBWPs and the estimation for the 2018 CBWP. The meeting noted the reduced amount of funding from ROK available for the 2017 CBWP. ROK informed that there will be an increase of 50% in the contribution for 2018 in order to reestablish the level of historical contribution. The meeting agreed on the following decisions:

Decision 22: to acknowledge the continuous and generous support of Nippon Foundation from Japan for the IHO CB Fund.

Decision 23: to acknowledge the continuous and generous support of Republic of Korea for the IHO CB Fund.

Decision 24: to approve the CB Finance Report (*doc. CBSC15-09.2*).

9.3 Management Plan

Doc: CBSC15-09.3 Draft 2018 CB Management Plan (IHO Sec)

Secretary introduced the draft 2018 CB Management Plan (*doc. CBSC15-09.3*) and explained the changes done in the submissions received from the RHCs, in particular in terms of the content of Procedure 1 and 4. The meeting endorsed the changes proposed by the Secretary, including the relevant amendments to the Technical Visit to Timor Leste in terms of the number of participants in the visiting team from 6 to 2 in accordance with the draft Procedure 9 and the necessity to provide reasons for the need to have an additional technical visit to the country since the last visit happened in December 2016. The meeting also noted the number of MSDI trainings provided by Industry in recent years while not being able to have qualified instructors from Hydrographic Services. The meeting agreed on the following decision and actions:

Decision 25: to approve the 2018 CB Management Plan (Annex C).

Action 23: Secretary to remove the first two EAHC projects as requested by its CB Coordinator (done during the meeting).

Action 24: EAHC CB Coordinator to provide evidence to the CBSC that a Technical Visit to Timor Leste is necessary in 2018 (deadline: October 2017).

Action 25: RSAHC and NIOHC CB Coordinators to investigate the possibility to merge the MSDI Workshops accepted for 2018 (deadline: October 2017).

Action 26: Chair to report to IRCC that despite the MSDI courses provided by Industry in recent years no instructors from Hydrographic Services are available to deliver MSDI trainings (deadline: IRCC9).

9.4 Adoption of the 2018 CBWP

Doc: CBSC15-09.4 Adopted 2018 CBWP (IHO Sec)

Secretary introduced the draft 2018 CBWP (*doc. CBSC15-09.4*) drafted during the meeting based on the approved 2018 CB Management Plan (**Annex D**) that was subsequently approved by the CBSC by the following decision and action:

Decision 26: to adopt the 2018 CBWP (Annex D).

Action 27: Secretary to publish the Adopted 2018 CBWP in Annex D (deadline: July 2017).

10. Report from the CBSC to the IRCC9 Meeting

The Chair highlighted the key matters to be included in the CBSC Chair report (*doc. IRCC9-07C*) to the IRCC9 Meeting:

- a) Proposed way ahead on the CB Strategy considering e-learning;
- b) Immediate need for increased CB support in the Secretariat;
- c) The adopted 2018 CBWP and associated estimated available resources;
- d) RHC Chair on how to prepare larger joint projects;
- e) Need for permanent CB Coordinators in the regions;
- f) The lack of MSDI trainers in Hydrographic Services despite trainings provided;
- g) Achievements: the growing in investments from the IHO Funds and the success of the IHO CB Programme.

Action 28: Chair to prepare a report to the IRCC9 considering the points discussed under agenda item 10 (deadline: IRCC9).

11. Any other business

No other business was presented.

12. Election of the Chair and Vice-Chair

Doc: CBSC15-12 Nomination of Candidates for Chair and Vice-Chair (IHO Sec)

The Chair introduced the nominated candidates (*doc. CBSC15-12*) for the positions of CBSC Chair and Vice-Chair for the period 2017-2020. He then requested the Vice-Chair to conduct the election for Chair. Mr. Thomas Dehling (Germany) was re-elected by acclamation as CBSC Chair.

The Chair then introduced the two candidates to the position of Vice-Chair, from Italy and Nigeria. The meeting elected Capt. Lamberto Lamberti (Italy) with the support from Australia, Brazil, Canada, Ecuador, Norway and USA. Mr. Olumide Omotoso (Nigeria) received the support from Nigeria, ROK, Suriname, Turkey and UK. Three countries abstained (France, Germany and Italy). The following decisions and action were agreed:

Decision 27: to re-elect Mr. Thomas Dehling (Germany) as Chair and to elect Mr. Lamberto Lamberti (Italy) as the Vice-Chair of the CBSC for the period 2017-2020.

Decision 28: to acknowledge the contribution of Mr. Olumide Omotoso as the Vice-Chair of the CBSC from 2012 to 2017, in particular in matters related to Africa and to assign him as the CBSC Ambassador for Africa.

Action 29: IHO Secretariat to write a letter of acknowledgment to Nigeria for the contribution of Mr. Olumide Omotoso and invite for the continuation of the support as a Member of the CBSC (deadline: July 2017).

13. Next CBSC Meetings (venue and date)

The Chair informed the meeting on the dates and venue for CBSC16 and confirmation of CBSC17 and CBSC18. The meeting agreed on the following decision:

Decision 29: to hold the next meetings as indicated below subject to the confirmation by the IRCC for a back-to-back meeting:

- a) CBSC16: 30 May - 1 June 2018 – Goa, India (to be confirmed by India)
- b) CBSC17: May / June 2019 – Italy (exact dates and places to be decided)
- c) CBSC18: May / June 2020 – Poland (exact dates and places to be decided)

14. Review of the List of Actions

Doc: CBSC15-14 Draft list of actions and decisions from CBSC15 (IHO Sec)

Secretary reported the draft List of Actions and Decisions with deadlines and assigned lead (*doc. CBSC15-14*) that was drafted during the meeting. The list to be circulated with the draft CBSC15 Report for comments as **Annex E** and **Annex F** respectively.

15. Closure

The Chair concluded the meeting thanking the Members, CB Coordinators and Observers for their contribution. He commended the progress made on the execution of the IHO CBWP and related matters. He also expressed, on behalf of all participants, his sincere gratitude to the staff of MAS for the quality of the meeting organization and wished a safe return journey to all participants.

Note: the meeting was followed by a visit to Maritime Authority Suriname and to the Maritime Museum

Annexes:

A – Closed 2016 CBWP

B – Updated 2017 CBWP

C – 2018 CB Management Plan

D – Adopted 2018 CBWP

E – List of Actions

F – List of Decisions