



IHB File N° S1/1001/WP

CIRCULAR LETTER 48/2016  
22 September 2016

**REPORT ON THE OVERALL STATUS OF THE IHO WORK PROGRAMME  
MID-YEAR 2016**

References:

- A. EIHC-5 - Decision No. 3 (*PRO. 5 - Improving the total cost estimate of the IHO tasks for the definition of a prioritized Work Programme*);
- B. IHO Circular Letter 17/2015 dated 24 February - *Report on the overall status of the IHO Work Programme - end of 2014*;
- C. IHO Circular Letter 66/2015 dated 2 September 2015 - *Report on the overall Status of the IHO Work Programme - mid-year 2015*.
- D. IHO Circular Letter 14/2016 dated 15 March 2016 - *Report on the overall status of the IHO Work Programme - end of 2015*.

Dear Hydrographer,

**Background**

1. Decision No. 3 of the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5) introduced a six-monthly reporting regime to help assess the progress of the IHO Work Programme (see Reference A). The status reports for 2014 and 2015 were provided to Member States at References B, C and D. This Circular Letter provides a report for the next reporting period - first semester of 2016.

2. On 11 July 2016, the Directing Committee invited the Chairs of Regional Hydrographic Commissions, Committees, Sub-Committees and Working Groups and the Director of the IHO Data Centre for Digital Bathymetry (DCDB) to report by 19 August 2016 on the overall status of their respective work programme. A reporting template was provided to achieve this.

**Outcome at mid-year 2016**

3. 19 of 41 Chairs provided a report for the period January to June 2016. This represents a response rate of about 46%, slightly lower than the response rate for the previous reporting period (49%). The inventory of the responses over the last two years is provided at Annex A.

4. As directed by EIHC-5, the Directing Committee is providing at Annex B a brief summary of the reports received. The reports themselves are reproduced at Annex C (*in English only*).

**Main concerns reported**

5. The main concerns expressed in the reports relate to insufficient expertise or a lack of human resources that impact directly on the likely ability to progress of a number of work items. Improving

the situation calls for increased participation and longer term commitment of the Member States in the relevant IHO organs.

### **Feedback**

6. Five Member States provided comments in response to Reference D: Chile, Colombia France, Mauritius and Singapore. Their responses are provided at Annex D.

7. Two Member States are in favour of reverting to annual reporting. Three Member States supports the continuation of six-monthly reports for HSSC, IRCC and their subordinate bodies at least.

8. In order to further inform its assessment of the reporting process that the Secretary-General will include in its report on Programme 1 to the IHO Assembly in 2017 (as per Conference Decision at Reference A), Member States are invited to provide any additional comments that they may have to the IHO Secretariat ([cl-lc@iho.int](mailto:cl-lc@iho.int)) by **1 December 2016**.

### **Next Reporting Period**

9. Noting that the Chairs of the Committees and Regional Hydrographic Commissions have been invited to prepare their reports on the activities covering the period between the XVIII<sup>th</sup> International Hydrographic Conference and the 1<sup>st</sup> Session of the IHO Assembly by 1<sup>st</sup> December 2016, the Directing Committee will not request separate six-monthly reports for the second semester of 2016.

On behalf of the Directing Committee  
Yours sincerely,



Robert WARD  
President

### **Annexes:**

- A. Inventory of the responses to the three bi-annual surveys
- B. Compilation of the Status Reports from IHO bodies and inter-organizational bodies involving the IHO - Mid-Year 2016
- C. Status Reports received - Mid-Year 2016 (*in English only*)
- D. Responses from Member States to IHO CL 14/2016

### **Copy (by e-mail):**

- Chairs and Vice-Chairs of IHO bodies
- Chairs and Vice-Chairs of inter-organizational bodies involving the IHO

## INVENTORY OF THE RESPONSES TO THE THREE BI-ANNUAL SURVEYS

IHO bodies and inter-organizational bodies	Reports at end of 2014	Reports at mid-2015	Reports at end of 2015	Reports at mid-2016	Comments
HSSC	Yes	Yes	Yes	Yes	
S-100WG	Yes	Yes	Yes	Yes	
ENCWG	Yes (DIPWG)	Yes	Yes	Yes	
DPSWG	Yes	Yes	Yes	Yes	
NIPWG	No report	Yes	Yes	Yes	
NCWG	Yes	Yes	Yes	Yes	
DQWG	Yes	Yes	No report	No report	
TWCWG	Yes (SCWG)	Yes	No report	Yes	
HDWG	No report	Yes	Yes	Yes	
ABLOS	No report	(late submission)	No report	Yes	
IRCC	Yes	Yes	No report	Yes	
HCA	Yes	Yes	No report	Yes	
WWNWS-SC	Yes	Yes	Yes	No report	
CBSC	Yes	No report	No report	Yes	
WEND-WG	Yes	Yes	Yes	No report	
IENWG	Yes	Yes	Yes	Yes	
MSDIWG	Yes	No report	No report	No report	
CSBWG	Not Applicable	Not Applicable	No report	Yes	CSBWG established by IRCC7 (June 2015)
IBSC	No report	No report	No report	No report	
GEBCO-GC	Yes	Yes	No report	No report	
TSCOM	Yes	Yes	Yes	No report	Joint reports
SCRUM					
SCUFN	Yes	Yes	Yes	No report	
DCDB	No report	No report	No report	No report	
NHC	No report	Yes*	Yes*	No report	See note*
NSHC	Yes	Yes	Yes	Yes	
MBSHC	No report	No report	No report	Yes	
BSHC	No report	No report	No report	No report	
USCHC	No report	No report	No report	No report	
EAHC	No report	No report	No report	No report	
EAtHC	Yes	Yes	Yes	No report	
SEPRHC	No report	No report	No report	No report	
SWPHC	No report	No report	No report	No report	
MACHC	Yes	Yes	Yes	Yes	
SAIHC	Yes	Yes	Yes	Yes	
NIOHC	Yes	No report	Yes	No report	
RSAHC	No report	No report	No report	No report	
SWAtHC	No report	No report	No report	No report	
ARHC	No report	No report	No report	No report	
FC	Yes	Yes	No report	No report	
SRWG	Yes	Yes	Yes	Yes	
<b>Response rate (%)</b>	<b>62.5</b>	<b>65</b>	<b>49</b>	<b>46</b>	

\*Note: the Directing Committee acknowledges that the NHC reports at mid-2015 and end of 2015 were provided in due time and regrets that there were not listed accordingly in the relevant inventories.

**COMPILATION OF THE STATUS REPORTS FROM IHO BODIES AND  
INTER-ORGANIZATIONAL BODIES INVOLVING THE IHO – MID - YEAR 2016**

**Number of responses**

1. By 15 September 2016 the Chairs of 19 bodies had responded to the IHB request. The following 22 bodies had not provided any report:

- subsidiary bodies:  
FC;
- subordinate organs of HSSC:  
DQWG;
- subordinate organ of IRCC:  
WWNWS-SC, MSDIWG, WEND-WG, DCDB;
- Regional Hydrographic Commissions:  
ARHC, BSHC, EAHC, EAthC, NHC, NIOHC, RSAHC, SEPRHC, SWAtHC, SWPHC, USCHC;
- inter-organizational bodies: IBSC, GEBCO GC, TSCOM, SCUFN, SCRUM.

**Status of the work programme of the HSSC**

2. A number of tasks and activities related to the development of the S-100 framework are progressing slower than expected. Delays affect in particular the upgrade of the S-100 Registry and the development of the portrayal component. This in turn impacts the work on the development of product specifications.

3. The drafting of the new editions of S-58 - *ENC Validation Checks* and S-66 - *Facts about Electronic Charts and Carriage Requirements* has been further delayed due to the lack of human resources. The implementation of the new set of IHO normative references for ECDIS has revealed additional imperfections that are being addressed through the preparation of clarifications in accordance with the procedures outlined in IHO CL 65/2015.

4. Lack of expertise is hampering the progress of work items of the Nautical Cartography WG, the Tides, Water Levels and Currents WG and the Hydrographic Dictionary WG.

**Status of the work programmes of the Regional Hydrographic Commissions**

5. Only four out of 15 RHCs provided a report.

6. Two commissions note the absence of basin-wide risk assessment and the lack of survey capacity. Another commission reports the lack of government awareness and support as the cause for the under-development of hydrographic services.

**Status of the work programme of the IRCC**

7. The IHO Hydrographic Commission on Antarctica (HCA) reports on actions taken to address the insufficient exchange of information with other organizations concerned with Antarctica.

8. The Capacity Building (CB) Sub-Committee reports a lack of funds to support the CB Work Programme. The allocation of the 2014 budget implementation surplus to the CB Fund should alleviate the situation. The need to strengthen the expertise of the regional CB Coordinators and increase their availability is highlighted.

9. The Crowd-Sourced Bathymetry WG regrets the lack of feedback from the IRCC on its draft guidance document and expresses the need of an IHO-approved online file sharing and virtual meeting facility. This requirement will be further considered at the next meeting of the WG, noting the need to accommodate all members of the WG, some of whom may have no or limited access to on-the-shelf applications.

**STATUS REPORTS RECEIVED – MID-YEAR 2016**

**Contents:**

- HSSC
- S-100WG
- ENCWG
- DPSWG
- NIPWG
- NCWG
- TWCWG
- HDWG
- ABLOS
  
- IRCC
- NSHC
- MBSHC
- MACHC
- SAIHC
  
- HCA
- CBSC
- IENWG
- CSBWG
  
- SRWG

**HSSC REPORT**

Overall status of the work programme of Hydrographic Standards and Services Committee (HSSC)

Compiled by Dr Mathias Jonas - e-mail address: mathias.jonas@bsh.de

<b>Current goals and priorities</b>	<b>Current or expected gaps and needs</b>	<b>Comments</b>
Maintenance of current ECDIS standards: implementation of the new editions of S-52, S-52 Presentation Library, S-58, S-63 and S-64	Creation of edition 2.0 of S-63 for S-10x data Products behind schedule	Although progress on the revised standard has been made, both review and finalizing has not been completed yet. It is proposed to combine S-63 as a new part of S-100.
Development of S-100 and S-100 based product specifications	Due to IT reasons reengineering of the registry structure and the register interface required	The redesign ended up being more complex than originally intended. It is expected to be released by the end of August. The registry applied current S-99 have not yet operated practically and developed for all registers. Updates to it will be put on hold until user feedback is collected.
	Delayed completion of the portrayal catalogue builder	The PCB has not been used to develop S-100 based portrayal catalogues as the focus has been on updating the other pieces of S-100 infrastructure. Because of the lack of extensive testing and some changes to the S-100 Register infrastructure the PCB may need to have some additional upgrades and functionality added.
	S-101, S-102, S-104, S-111, S-112, S-122 and S-100 based product specifications belonging to other domains still need to establish portrayal catalogue builder for the creation of machine readable portrayal catalogues.	Pending completion of the reengineering of the registry structure and interface (see above). This has been delayed another year due to lack of resource availability.

*Progress of the IHO Work Programme at the mid of 2016*

<b>Current goals and priorities</b>	<b>Current or expected gaps and needs</b>	<b>Comments</b>
Future of paper charts	Retirement of NCWG Chair. Commitment of recently appointed Vice-Chair to perform the duties of Chair of the WG from September 2016 until NCWG3 (May 2017) only.	Assigned as top priority work item to NCWG. Correspondence Group identified but little correspondence to date due to conflicting priorities of WG Chair.
Improvement of the content of the IHO online Hydrographic Dictionary and Support of HDWG activities managed by the IHB: Production of a simple Hydrographic Dictionary multilingual demonstrator	Technical hurdles (too complicate for the allocated budget, which is in the process of being negotiated)	Short time frame (Demonstrator to be completed for the first week of November 2016, in time for HSSC8)
Develop high level specifications for a combined Marine Service Portfolio (MSP) covering the provision of hydrographic services to mariners in accordance with the IMO e-navigation strategy implementation plan	MSP specification not completed yet	MSPs in their current status of development have not been accepted by the IMO. MSC put an action in their post-biennial agenda (2018-2019) to “Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)” for which the NCSR will be the coordinating body.

**S-100WG REPORT**

Overall status of the work programme of the **S-100 Working Group**

Compiled by Julia Powell - e-mail address: [Julia.Powell@noaa.gov](mailto:Julia.Powell@noaa.gov)

Current goals and priorities	Current or expected gaps and needs	Comments
Develop an S-100 Interoperability Guidebook	Currently this project is on track.	Initial draft specification has been delivered and will undergo review at the S-100 Focus Group meeting in Sept. 2016
Publish edition 3.0.0 of S-100	Currently this is on track. Awaiting comment on redline and will be submitted to HSSC8	Edition 3.0.0 will include a new encoding format, HDF5 for gridded data, as well as proposed corrections and clarifications found as a result of the S-100 test bed activities.
Prepare a New Edition of S-102	S-102 still needs to establish both a feature and portrayal catalogue for machine readability.	This has been delayed another year due to lack of resource availability.
Update S-99 and release of the S-100 Registry Interface	The redesign ended up being more complex than originally intended. It is expected to be released by the end of August. The registry applied current S-99 have not yet operated practically and developed for all registers. Updates to it will be put on hold until user feedback is collected.	Please note that the rest of the S-100 infrastructure relies on a functioning registry. The initial registry did not function correctly and the Republic of Korea (KHOA) stepped in to redesign the interfaces. Because of the interdependencies that the registry has to the Feature Catalogue Builder and then to the Portrayal Catalogue Builder, product specification developers have had to wait – so this will cause a delay to other work.
Potential updates the S-100 Portrayal Catalogue Builder (PCB)	The PCB has not been used to develop S-100 based portrayal catalogues as the focus has been on updating the other pieces of S-100 infrastructure. Because of the lack of extensive testing and some changes to the S-100 Register infrastructure the PCB may need to have some additional upgrades and functionality added.	Note – this is still an issue – but due to the S-100 registry being delayed, we have not been able to assess the scope of work needed. This will move into 2017 planning.



**ENCWG REPORT**

Overall status of the work programme of ENCWG

Compiled by: Tom Mellor, Chairman - e-mail address: Thomas.Mellor@ukho.gov.uk

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
S-66 edition 2		Review conducted by ENCWG 30 <sup>th</sup> June. Comments to be consolidated and new edition created for submission to HSSC.
S-65 edition 1.3		Comments to be collated 28th of July. Comments to be consolidated and new edition created for submission to HSSC
S-52 edition 4.0.2		ECDIS Chart 1 and UML diagrams to be corrected (CMAP)
S-64 edition 3.0.2		New screen shots (Furuno), Chair DPSWG updating encrypted exchange sets
S-58 edition 6.0		Reword tests for new operators (IC-ENC)

**DPSWG REPORT**

Overall status of the work programme of .....DPSWG

Compiled by: Jonathan Pritchard - e-mail address: Jonathan.Pritchard@ukho.gov.uk

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
Creation of edition 2.0 of S-63 for S-10x data products	Input to document creation has been difficult to obtain due to resource constraints. Re-organisation of standard to integrate with S-100 has been proposed.	DPSWG meeting has now taken place. Although progress on the revised standard has been made, both review and finalizing has not been completed. It was proposed to combine S-63 as a new part of S-100 and this will be progressed over the coming months into an HSSC proposal. The exact form of the DPSWG will need to be considered as well. Revised plan is to submit a working draft of a new part for S-100 by the next S-100 WG meeting in 2017 for inclusion in an appropriate future release of S-100.
Support to data protection scheme administrators and end users (including ECDIS OEMs)	On track	
Input into other IHO work groups on S-63 2.0 structure.	On track	See notes above. Successful liaison meeting with S-100 WG has taken place in 2016.

**NIPWG REPORT**

Overall status of the work programme of **the NIPWG**

Compiled by Jens Schröder-Fürstenberg - e-mail address: jens.schroeder-fuerstenberg@bsh.de

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
Populate the NPUBS domain of the FCD Register (work item F.7)	[NEED] improvement of the registry handling	The registry is under construction and improvement comments based on the testing phase experience have been provided
Develop S-122 – Marine Protected Area Product Specification (work item F 8.1)	[GAP] portrayal and data quality parts missing [NEED] harmonization with S-101 data model, feature catalogue builder	Portrayal part is under consideration by the involved WGs, quality model was forwarded to the DQWG for further consideration. The harmonization discussion between the S-100WG/S-101 Project Team and NIPWG is ongoing, the feature catalogue builder is not available
Draft Data Capture and Encoding Guides for Marine Protected Area Product Specification (work item J.2.1.1)	[NEED] harmonization with S-101 data model	Both the S-101 and the S-122 data models should be harmonized to the widest possible extent. The next phase is to await the next S-100WG meeting where the DCEG improvements will be discussed
Develop high level specifications for a combined Marine Service Portfolio (MSP) covering the provision of hydrographic services to mariners in accordance with the IMO e-navigation strategy implementation plan	[GAP] MSP specification	MSPs in their current status of development have not been accepted by the IMO. MSC put an action in their post-biennial agenda (2018-2019) to “Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)” for which the NCSR will be the coordinating body.
Develop a test and implementation plan for the development of the MSP “hydrographic services” (Work item H)	[GAP] MSP specification	MSPs in their current status of development have not been accepted by the IMO. At the time when this report was made, a description of the MSP “hydrographic services” doesn’t exist. NIPWG did the first steps to develop such MSP. Further iterations and group discussion are needed.

**NCWG REPORT**

Overall status of the work programme of the **Nautical Cartography Working Group (NCWG)**

Compiled by **Jeff Wootton** - e-mail address: [jeff.wootton@defence.gov.au](mailto:jeff.wootton@defence.gov.au)

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
(A) Consideration of the future of the paper chart (NCWG Work Item A.16)	Retirement of the WG Chair may stall discussions.	Top priority work item assigned at HSSC7. Correspondence Group identified but little correspondence to date due to conflicting priorities of WG Chair. Discussion paper presented at NCWG2. It is hoped that the succeeding Chair* of the WG will be able to continue to progress this item.
(B) Development of new (and revised) symbology (IHO Task 2.3.2).	Actions HSSC7/18 and HSSC7/20 relate to ECDIS portrayal. The NCWG is in the early stages of transitioning from a focus almost exclusively on symbology for paper charts to providing subject matter expertise related to presentation and portrayal for all nautical charting products. This expertise in regard to ECDIS may take some time to build, and accessibility to S-100 test beds and test data will be required.	Significant discussion at NCWG2, and related actions taken by only a small team of WG members (including Chair who will be retiring in September), including the formation of a “Portrayal Sub-WG”. Liaison with other HSSC Working Groups such as the S-100WG, ENCWG and NIPWG; and consultation with expert contributors such as OEMs, is considered essential.
(C) Retirement of NCWG Chair	Commitment of recently appointed Vice-Chair to perform the duties of Chair of the WG from September 2016 until NCWG3 (May 2017) only.	Mikko Hovi (FI) appointed Vice-Chair in July 2016, and will take up the duties of Chair from 08 September. FI has agreed to commit Mikko as Chair only until NCWG3. At NCWG3 the WG will need to find a new Chair and/or Vice Chair. There is also a possibility of the Secretary of the WG retiring in the next 2 years.

**TWCWG REPORT**

Overall status of the work programme of TWCWG (Tidal Water level and Current Working Group)

Compiled by Gwenaële Jan, Louis Maltais and David Wyatt

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<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
<b>Maintain and extend the relevant IHO standards, specifications and publications (3/1919):</b> Provide the latest version amended by HSSC and answer to the comment raised by BHI.	Deadline: May 2016. Action done on time: amended by the TWCWG and confirm during the annual meeting (2016-03). Submit for final approval.	
<b>Provide S-104, S-111 and S-112 test datasets to IHB for uploading to the website</b> (a S-100 based Product Specification)	Deadline: May 2016 Complete.	
<b>S-111: Provide</b> WG members with <b>a tool</b> to convert the revised v1.9 metadata file from ASCII/Excel to XML, and provide a sample XML file.	No gap is expected. Deadline: Dec. 2016 (1) Tasks and tasks' leaders have been identified. CAN and SPAWAR (industry) Leader of the action. (2) Upload presentations of the encoding tool for S-111 and describe how they work. (3) Discuss with chair S-100WG the creation of Basecamp access for S104, S111 and S112.	
<b>S-111: Finalise the dynamics information to include in the future e-navigation products:</b> (a S-100 based Product Specification)	No gap is expected. Dead line: End of 2016. Tasks and tasks' leaders have been identified.	Up to three, 9-step current vector colour specifications, one each for daylight, dusk, and night time viewing conditions.
<b>S-111: Specify the appropriate format</b> for the scalable vector graphics for the portrayal of the surface current vector (a S-100 based Product Specification)	Deadline: End of 2016. Possible gap of 3 months delay. Possible reason: time to get feedback from all members of the group. Actions to mitigate the risk are listed beside.	(1) Tasks and tasks' leaders have been identified. (2) Send the S-111 v 1.9 Product Spec out for review and comments by the WG (3) Send S-111 v1.9 Product Spec to NOAA

*Progress of the IHO Work Programme at the mid of 2016*

Principal goals or priorities for your group	Current or expected gaps and needs that may prevent completion of tasks on time	Any amplifying comments
<b>S-111 dataset for test</b> (a S-100 based Product Specification)	Deadline: First term of 2017. Possible gap: 3 months delay. Related to the above task. Possible delay in order to get feedback from all members. Actions to mitigate the risk are listed beside.	(1) Tasks and tasks' leaders have been identified. (2) Test S-111 v1.9 HDF5 datasets to SPAWAR and KHOA for testing. (3) Test the effect of various zip compression methods, the effect of precision (e.g. 16-, 32-, or 64-bit) for real variables, and encryption on uncompressed HDF5 file size.
<b>S-111: Portrayal setup</b> (a S-100 based Product Specification)	First term of 2017 Tasks and tasks' leaders have been identified.	Test of the suitability of portraying a zero current speed by a non-zero finite length (e.g., 0.1 mm) and report.
<b>Provide feedback on draft S-104 Product Specification document</b> (a S-100 based Product Specification)	Deadline: Dec. 2016. Possible delay of 3 months. Risk mitigation: Take advantage of the scheduled point between the group members next September to progress on the draft document.	
<b>S-104 and S-112:</b> Learn from the S-111 and adapt and apply rules and specifications to S-104 and S-112 (a S-100 based Product Specification)	Deadline: End of 2017. Actions studied to reach the objective: Use S-111 knowledge as a template that will be provided for the end of 2016.	S-104 – <i>Water Level Information for Surface Navigation</i> S-111 – <i>Surface Currents</i> S-112 – <i>Dynamic Water Level Data Transfer</i>
<b>Vertical Reference Frame:</b> increase information on IHB TWCWG web page.	Deadline: 2 <sup>nd</sup> term of 2017. No delay is expected.	Provide details of VRF GNSS datums to IHB for uploading to the website

*Progress of the IHO Work Programme at the mid of 2016*

Principal goals or priorities for your group	Current or expected gaps and needs that may prevent completion of tasks on time	Any amplifying comments
<p><b>Capacity building:</b></p> <ul style="list-style-type: none"> <li>(a) Review contents of Tides, Water Level and Currents</li> <li>(b) Liaise with SAN to commence translation of Workshop material into Spanish (by USA)</li> </ul>	<p>Deadline: Sept 2016. Possible delay: (~6 months). Possible reasons: (a) Time to get feedback from groups' members (b) Necessary time to do the translation and submit it to the review committee TWCWG and IHB. Actions studied to mitigate the risk are listed beside.</p>	<p>(1) Provide comments, amendments and feedback on the existing documents available on IHB web site (TWCWG). Send it to the leader of this task (SAN) and to all (2) Propose support from group members for the review (ex: 13 Hispanic Members States).</p>
<p><b>Study of long term data sets</b></p>	<p>No delay is expected: Expected deadline: the next TWCWG workshop. Actions for all members but driven by USA and NOR (identified task leaders)</p>	<p>Provide a document on the results obtained to date for publication on the IHO website</p>
<p><b>Standard for Digital Tide Tables:</b> Provide feedback on the existing harmonic constituents list that has been selected by the tidal working group.</p>	<p>Expected deadline: the next TWCWG workshop (with no expected delay). Allow revised list to be created on the fundamental attributes</p>	<p>Actions for all members</p>
<p><b>Actual tides online links :</b> Check and provide up-dates and amendments to the information provided to ensure content is current and all links work</p>	<p>Continuous action</p>	
<p><b>Inventory of tide gauges:</b> Regularly check entries and provide up-dates and amendments to IHB as necessary.</p>	<p>Continuous actions</p>	<p>Contact national representative attending RHCs to raise awareness of inventory and encourage input and updating of information</p>

*Progress of the IHO Work Programme at the mid of 2016*

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
<b>Study of long term data sets</b>	Continuous action.	All to take long term records to conduct analysis of constituents and to exchange the results.
<b>Increase discussion or results on the standard constituent list</b>	Continuous action.	New: Add data and upload to website for further comment.
<b>Compare tidal predictions:</b> Additional suitable data sets for general analysis to improve robustness of the analysis.	Continuous action: Report progress on results and analysis are expected.	To be provided by members to IHB



### HDWG REPORT

Overall status of the work programme of .....HDWG

Compiled by ...Jean Laporte - e-mail addresses: [JLaporte@argans.co.uk](mailto:JLaporte@argans.co.uk) - [jlaporte@shom.fr](mailto:jlaporte@shom.fr)

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
Improvement of the content of the IHO online Hydrographic Dictionary and Support of HDWG activities managed by the IHB	Ongoing contract between the IHB and Mr Markus Bärlocher of the Wikimedia Foundation. Risks: Technical hurdles (too complicate for the allocated budget, which is in the process of being negotiated) Short time frame (Demonstrator to be completed for the first week of November 2016, in time for HSSC8)	Production of a simple Hydrographic Dictionary multilingual demonstrator

**ABLOS REPORT**

Overall status of the work programme of .....ABLOS

Compiled by .....John Brown - e-mail address: .....John.brown@ukho.gov.uk.....

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
BM24 and Seminar to be held in October 2016	None	Theme is “Roles of Law of the Sea and Hydrography in the Asian Region”. Currently waiting draft programme from Korea
ABLOS conference to be held in October 2017	None	Theme “Pushing the Limits of UNCLOS”

**IRCC REPORT**

Overall status of the work programme of IRCC

Compiled by Parry OEI, the IRCC Chair - e-mail address: Parry\_OEI@mpa.gov.sg

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
Conduct annual meeting of IRCC	None	IRCC8 held in May 2016 in the UAE. IRCC9 planned for June 2017 in Suriname.
Support the IHB to implement the planning mechanism annually	None	Ongoing. IRCC Work Programme for 2016-2017, IRCC8-09/2016
Contributing to the IHO Annual Report	None	Ongoing. IRCC Work Programme for 2016-2017, IRCC8-04/2016
Updating and implementing the IRCC Work Programme	None	IRCC Work Programme for 2016-2017 was updated at the IRCC8. Implementation is ongoing.

**NSHC REPORT**

Overall status of the work programme of NSHC Aug 2016

Compiled by Declan Black, email: declanblack@dtas.ie

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
Shared European contacts and projects	none	In cooperation with other RHC's and IENWG
Shared progress with up to date bathymetric coverage of north sea	Limited survey capacity Lack of basin wide risk assessment	Resurvey strategies for dynamic areas and emerging new methods are taken into account Dover and resurvey working group merged
Shared experiences with MSDI	none	Baltic and North sea MSDI working group merged with joint Terms of reference.
Shared progress on establishment of vertical reference frame	Difficulty in merging due to differing references used	Task of eliminating/analyzing errors at national boundaries being coordinated by tidal working group

**MBSHC REPORT**

Overall status of the work programme of MBSHC Aug 2016

Compiled by Eric LANGLOIS, email: dmi-rex-d@shom.fr

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
Selection of Member States from MBSHC to the IHO Council.	As the Amended Convention on the IHO and its Basic Documents will enter into force on 8 November 2016, MBSHC will initiate its procedure for selection MSs to IHO council according to the revised rules decided at the last MBSHC Conference (decision MBSHC19/05).	A MBSHC circular letter to be disseminated in early September in that scope.
Regional International Charting Coordination Following up the decision taken at the 19 <sup>th</sup> MBSHC Conference:	<ul style="list-style-type: none"> <li>- A silence procedure was initiated in April regarding the submission of 16 charts in Marmara and Black Seas as Region F INT charts. As the silence was broken by a ICCWG Member on those proposals, a new silence procedure is to be initiated regarding those proposals plus other relevant proposals received by the region charting Coordinator,</li> <li>- Technical discussions between FR, ES and DZ regarding the Western Mediterranean INT scheme began. A letter is to be disseminated by the Coordinator to summarize the proposals made by the concerned MSs.</li> </ul>	The 13 <sup>th</sup> BASWG Meeting held in Istanbul in April has been a good opportunity to raise sub-regional charting issues, with the participation, for the first time, of the Regional Charting Coordinator.
Regional ENC Coverage Coordination	One of the reasons of the absence of agreed ENC scheme in region F remains the lack of progress on the resolution of UB1 overlapping cases and leading to a disparate UB1 scheme in contradiction with a well-established small scale INT charts scheme covering the region. Besides, the persistency of some UB1 scheme overlapping cases and the significant domino effect associated	Discussions are still pending between IT and the other UB1 producer nations based on proposals submitted by IT last July. At the 31st of July, no improvement is to be reported regarding that issue.

*Progress of the IHO Work Programme at the mid of 2016*

Principal goals or priorities for your group	Current or expected gaps and needs that may prevent completion of tasks on time	Any amplifying comments
	<p>with the solving of UB2 overlapping cases prevents the ICCWG from properly addressing the UB2-3 schemes.</p> <p>Therefore, the MBSHC decided to task all ENC producer nations concerned by those UB1 overlaps to liaise with each other under the coordination of IT and to report back to RCC on the resolution of those overlapping cases by the end of the year (action MBSHC19/27).</p> <p>Besides, the proposal of focusing on larger scale usage bands, such as UB4-5-6, was then approved (action MBSHC19/29) as an alternative in order to move forward on the approval of ENC schemes in the region.</p>	
Capacity Building	<p>Following up the decisions taken at CBSC14 regarding the new procedures 11, a draft MBSHC 3-year CB plan and a regional assessment of CB phase stage of MBSHC coastal States have been disseminated to the MBSHC Member States and provided to the IHB.</p>	

**MACHC REPORT**

Overall status of the work programme of MACHC

Compiled by Leendert Dorst, Hydrographic Service of the Royal Netherlands Navy - e-mail address: LL.Dorst@mindef.nl

<b>Principal goals and priorities</b>	<b>Current or expected gaps and needs</b>	<b>Comments</b>
increase membership and regional cooperation	developments on the use of Spanish needed	1. Membership is growing. 2. Strong participation of industry during the MACHC Conferences.
shared progress to reach an up to date bathymetric coverage of the MACHC area	1. limited survey capacity; 2. lack of a basin-wide risk assessment	1. emerging survey methods (LIDAR, SDB, CSB) are taken into account 2. developments on risk assessment methodologies are followed closely
achieve full ENC coverage	None	1. coordinated by the MACHC Integrated Charting Committee. 2. of the 833 current and planned ENCs required to meet WEND principles for adequate ENC coverage, 723 are currently published and available (87%). The number is growing steadily.
ensure all coastal states reach CB Phase 1 status.	None	1. coordinated by the MACHC CB Committee. 2. The requirement to deliver capacity building activities in Spanish is being met. 3. Annual Hydrographic Awareness Seminars are organized in conjunction with MACHC meetings to raise awareness in the region.
contribute to a regional marine SDI through the Marine Environmental Infrastructure Programme (MEIP) of MACHC.	None	The MACHC ENC Online database is now available in two versions, one with password protection (for CU, CO, MX, NL, UK, US ENCs) and one without password protection (for CU, CO, MX, NL, US ENCs).

**SAIHC REPORT**

Overall status of the work programme of SAIHC

Compiled by ...Captain Abri Kampfner - e-mail address: hydrosan@iafrica.com.

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
Promote technical co-operation in the domain of hydrographic surveying, marine cartography, and nautical information within the Region	Majority of Associate Member States in region have still not achieved Phase 1 hydrographic development.	Shortcomings have been identified during technical visits within the region and are being addressed through the SAIHC Capacity Building Strategy. National reports presented at the SAIHC Conference allow the opportunity for Associate Member States to provide feedback on progress and request specific support. Next ICCWG and SAIHC Conference scheduled to be held in Cape Town from 29 to 31 August 2016.
Stimulate all countries within the Region to widen hydrographic activity in the area and to encourage them to seek technical advice and assistance from the IHB in establishing and strengthening their hydrographic capabilities in order to promote safe navigation and create an environment within which economic development may take place	Lack of funding and government support. High level interaction required to inform decision makers at the political levels of Government to create awareness and garner support for in-country officials.	Visits by IHB President identified as a SAIHC Capacity Building priority. CBSC 13 approved a SAIHC requirement for a High level visit to Tanzania by IHB President and SAIHC Chair for 2016. CB Coordinator in process to establish most suitable date.
Facilitate the exchange of information concerning surveys, research or scientific and technical developments, to aid in the planning and organisation of hydrographic activities	The lack of functioning hydrographic offices and National Hydrographic Committees create some difficulty to obtain information.	SAIHC Conference and SAIHC ICCWG are used to communicate the requirements and obtain information from delegates. Between scheduled conferences there is only communication with INT Chart producers and no feedback from Associate Member countries
Conduct Capacity Building projects as approved by CBSC	Two events planned for 2016 execution, the High Level Visit to Tanzania and MBES setting to work project for Mozambique, may be problematic to execute	The Phase 1 Skills Course was successfully conducted in Walvis Bay, Namibia and a report has been submitted. Two events planned for 2016 execution is the High Level Visit to Tanzania and MBES setting to work project for Mozambique.



**HCA REPORT**

Overall status of the work programme of ...The IHO Hydrographic Commission on Antarctica (HCA)

Compiled by: Chair, HCA (Robert Ward)

e-mail address: *pres@iho.int*

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
<p>1. Co-operation with International Organizations and participation in relevant meetings (see IHO WP 1.1.1, 1.1.3 and 1.1.20)...in order to further the interests of the IHO by enlisting their support and cooperation and to participate in projects of common interest (ATCM, COMNAP, IAATO, SCAR, IMO).</p>	<p>Practical liaison and the regular, systematic exchange of information and experience between HCA (IHO) national representatives and other in-country national representatives involved in other international organizations concerned with Antarctica continues to be limited and sub-optimal. In many cases, neither party is aware of the activities of the other.</p> <p>Similarly, an effective exchange of information and an awareness of the activities and complementary aims of the IHO HCA with those of other international organizations concerned with Antarctica is currently is lacking.</p>	<p>HCA-13 (June 2016) took action that HCA MS will identify and brief relevant in-country organizations and HCA MS will seek to provide a targeted briefing session to the ATCM in 2018.</p>

**CBSC REPORT**

Overall status of the work programme of Capacity Building Subcommittee (CBSC)

Compiled by Thomas Dehling - e-mail address: Thomas.dehling@bsh.de

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
<p>The goals and priorities are provided in the respective Capacity Building Work Programme and the CBSC 14 list of actions as published on the IHO website.</p>	<p><b>CB Fund:</b> At the current stage the available CB funds are not sufficient to fund all the accepted projects submitted for 2016 and 2017. The CB programme is in urgent need for additional funds, especially in the light of a widened scope for the support of comprehensive projects.</p> <p><b>The assessment of the CB Phases</b> in coastal States is key for an informed decision making process by the CBSC and this assessment is heavily dependent on the work of the CB Coordinators that are not always available/knowledgeable to do this assessment in each RHC.</p> <p><b>CB Administration:</b> The success of the CB is accompanied by a growing amount of workload for the staff at the IHB as well as the involved contributors from MS.</p> <p>To work successfully according to the CB Strategy a sustainable support for the CB administration is crucial.</p>	<p><b>Weakness:</b> CB fund currently strongly depends on voluntary contribution from a limited number of countries. There is no clear indication at this stage what will be the total contribution available in 2017</p> <p><b>CB Administration:</b> it can be acknowledged that a noticeable improvement in the administrative support started in 2016 but the knowledge base on CB requires a steady and permanent dedicated staff.</p> <p><b>Assessment of the CB Phases:</b> the CBSC 14 adopted the use of a draft CB Procedure 11 to guide CB Coordinators on this assessment. However, the RHCs need to appoint permanent CB Coordinators for periods longer than the Chairman period.</p>

**IENWG REPORT**

**11 July 2016 (last IENWG meeting held in St-Mandé 18-19 January 2016)**

Overall status of the work programme of **IHO-EC network WG**

Compiled by Laurent Kerléguer - e-mail address: laurent.kerleguer@shom.fr

Principal goals or priorities for your group	Current or expected gaps and needs that may prevent completion of tasks on time	Any amplifying comments
To monitor the outcome of the EC call for tender “Coastal mapping”		<p>The European Commission’s Directorate-General for Maritime Affairs and Fisheries (DG Mare) has awarded a contract on coastal mapping call MARE/2014/10 to the 18 partners’ consortium led by SHOM. Duration of the contract is 36 months.</p> <p>Progress:</p> <p>The principles of the algorithm that will help in choosing the best way to assess the knowledge in coastal areas were validated by the project team during the Roma (IT) meeting in early March 2016.</p> <p>The next objectives are:</p> <ul style="list-style-type: none"> <li>• To improve the algorithm by gathering more information (on costs in particular) from non-partners</li> <li>• To set up the algorithm function on the portal in order to promote it and help the previous objective</li> <li>• To build and submit an acquisition programme by using the algorithm and taking into account economic models, data policies and EU funding.</li> </ul> <p>On 20 April a meeting was organized by the <i>Administrator for Maritime affaires and fisheries</i> of the European Committee of the Regions (CoR) in Brussels, with the Director of the EMODNET secretariat and Coastal Mapping project, to discuss the first results of the project and the possibility to get support from CoR political representatives to develop future proposals.</p>
To prepare the position of European HOs about the future phase of EMODNet, the long term marine data initiative from the European Commission		<p>The Executive Agency for Small and Medium Enterprises (EASME) issued a call for tender for “High resolution seabed mapping” on 4 May 2016.</p> <p>The tendering provisions previously defined by IENWG have been implemented. A consortium comprising several HOs is currently working on the preparation of a tender. Deadline for submission is 2 August 2016</p>

*Progress of the IHO Work Programme at the mid of 2016*

Principal goals or priorities for your group	Current or expected gaps and needs that may prevent completion of tasks on time	Any amplifying comments
<p>To improve cooperation with the European Commission, by promoting amongst its entities and with decision makers the role of the hydrographic offices in development of EU maritime policies.</p>		<p>IHB Director Gilles Bessero and Ingénieur Général Bruno Frachon, National Hydrographer of France, on behalf of the IENWG, met with Mr Joao Aguiar Machado, Director-General MARE at the European Commission (EC) in Brussels, Belgium. In that occasion IHB director and SHOM's director have stressed the need to ensure the sustainability of EMODnet in the long term, building on the operational role of Hydrographic Offices (HOs) and the relevance of the expertise of the HOs in relation to maritime spatial planning and climate change issues.</p> <p>Application of IENWG to the Maritime Spatial Planning Expert Group, with an observer status, has been accepted.</p> <p>Sweden (Magnus Wallhagen Head of Production Hydrographic Office, Swedish Maritime Administration) represented IENWG at the European Marine Day in Turku on 18-19 May 2016.</p> <p>Next IENWG meeting will take place in Brussels on 13-14 October will be an opportunity to facilitate contact with other DGs.</p>
<p>To monitor European directives, calls for tenders and proposals, projects, events, etc., potentially impacting HOs and to define actions to be conducted in accordance</p>		<p>IENWG considering how EU Directive on Marine Equipment could foster the requirement that software-based equipment such as ECDIS be updated to the latest version of the relevant standards.</p> <p>HOs of EU/EEA have liaised with their relevant administration to make sure that the question of ECDIS maintenance is on the agenda of the next Maritime Equipment Expert Group  <a href="http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&amp;groupID=2653">http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&amp;groupID=2653</a>). This question has not yet been raised at the MED expert group.</p>

**CSBWG REPORT**

Overall status of the work programme of the IRCC CSBWG

Compiled by Lisa Taylor - e-mail address: lisa.a.taylor@noaa.gov

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
<p>Prepare an IHO publication on policy for trusted crowd-sourced bathymetry to provide guidelines on the collection and assessment of CSB data, not only for potential use for charting purposes but also for its wider use in non-navigational applications.</p>	<ul style="list-style-type: none"> <li>• WG member availability</li> <li>• Need for IHO to vet and provide an online file sharing application and virtual meeting technology (e.g., Box, Google Docs and Hangout).</li> </ul>	<p>WG received no feedback on draft guidance document from the IRCC.</p>

**SRWG REPORT**

Overall status of the work programme of SRWG

Compiled by Andrew Millard - e-mail address: ...andrew.millard@ukho.gov.uk

<b>Principal goals or priorities for your group</b>	<b>Current or expected gaps and needs that may prevent completion of tasks on time</b>	<b>Any amplifying comments</b>
In accordance with ToR of the SRWG:		
Review proposed revised draft regulation Review implementation plan Review proposed job descriptions for directors under new structure	SRWG has approved the final version of the revised SRs and these have been circulated to member states for approval. Unless Member States do not approve them and require further work to be done by the SRWG I believe the work of this group, as directed by Member States in the ToR of October 14, to be complete.	

**RESPONSES FROM MEMBER STATES TO IHO CL 14/2016**

**CHILE**

We take note that the level of response continue to diminish and we are of the opinion that it is due to the low or lack of influence such reports have as a contribution to improve the management of the IHO.

Several Reports do not identify gaps and problems or needs or do not offer any information requiring action from MSs. Therefore the value of the Reports seems not to compensate the effort in its preparation and analysis.

Probably having Reports once a year is an acceptable reporting regime.

**COLOMBIA**

- We note a significant progress of the activities compared to the previous report.

- In relation with the reporting process, we recommend that the reports be presented annually, as more results would be obtained in that timeframe.

**FRANCE**

SHOM shares the view expressed by Sweden in the Annex D of IHO CL 14/2016 that a six-monthly reporting rhythm is appropriate for HSSC, IRCC and their subordinate bodies and an annual rhythm would be appropriate for the reporting of Regional Hydrographic Commissions.

**MAURITIUS**

Mauritius supports the procedure of biannual reports for IHO bodies and sub-organs, and annual reports for Regional Hydrographic Commissions (RHCs).

**SINGAPORE**

Singapore supports the usefulness of bi-annual reports as these provide close monitoring on the activities which is necessary for them to achieve the desired outcome. This also acts as an avenue for working groups to share their limitations which could be advised by other working groups with the relevant expertise. The low response rate could be due to the lack of awareness of some Regional Hydrographic Commission and working groups.