

**9<sup>TH</sup> MEETING OF THE WORLDWIDE ENC DATABASE (WEND) WORKING GROUP  
(WENDWG-9)  
Brest, France, 26 – 28 February 2019**

**FINAL MINUTES**

**Notes:**

- 1) *The numbering of sections is the same as in the agenda, even if the order of the items was not exactly followed in the discussions.*
- 2) *The actions are listed in Annex B only. When reading the text in the main part of the report, click on the hyperlink to view the associated action if any. Then, when in Annex C, press **ALT+ left arrow** to get back to the original section in the main part of the minutes.*
- 3) *All documents and related presentations referred to in these minutes are available from the WENDWG page of the IHO website ([www.iho.int](http://www.iho.int) > Committees & WGs > IRCC > WENDWG > WENDWG9).*

**Annexes:**

Annex A [List of Participants](#)

Annex B [List of Actions & Decisions arising from WENDWG-9](#)

**1. Opening and Administrative Arrangements**

Docs:	WENDWG9-01A	<a href="#">List of Documents</a> (WENDWG Sec.)
	WENDWG9-01B	<a href="#">List of Participants</a> (WENDWG Sec.)
	WENDWG9-01C	<a href="#">WENDWG Membership</a> (WENDWG Sec.)
	WENDWG9-01D	<a href="#">Terms of Reference for WENDWG</a> (WENDWG Sec.)
	WENDWG9-01E	<a href="#">WEND Principles IHO Resolution 1/1997</a> (WENDWG Sec.)
	WENDWG9-01D	<a href="#">Guidelines for the Implementation of the WEND Principles</a> (WENDWG Sec.)

Jamie McMichael-Phillips (UK), Chair of the WENDWG, opened the meeting and welcomed the participants. On behalf of all the delegates, he expressed his thanks to Ingenieur general Bruno Frachon, Director General of the Hydrographic and Oceanographic Service of France (Shom) and his staff for hosting this meeting. The Director General of Shom also welcomed the participants, and in his opening speech highlighted the fact that the WENDWG had been a major asset for the last decade for the IHO, when actually entering the digital age with the timely delivery of qualified, updated and consistent ENC's for ECDIS. He also stressed the importance of preparing the future.

Twenty-one delegates from 11 Member States (Brazil, China, Finland, France, Italy, Netherlands, Norway, Republic of Korea, Sweden, United Kingdom and United States) representing 13 Regional Hydrographic Commissions (ARHC, BSHC, EAHC, EAthC, MACHC, MBSHC, NHC, NSHC, RSAHC, SAIHC, SWAtHC, SWPHC and USCHC), the Chairs of the IC-ENC Steering Committee and PRIMAR Advisory Committee and the directors of the RENCs attended the meeting. Director Mustafa Iptes and Assistant Director Yves Guillam (Secretary) represented the IHO Secretariat.

The Secretary indicated that some Regional Hydrographic Commissions still needed to provide their updates to the WENDWG Membership List. The Chair reported on the main outcomes of the last IRCC meeting held in Goa, India (June 2018), where the Committee agreed to amend the Terms of Reference of the WENDWG. As a consequence, the WENDWG is now requested to develop options to expand the value of the Worldwide ENC database to all marine data users. In particular, it is tasked to support non-ECDIS maritime community through license management of ENC data as well as the Seabed 2030

Project. Some pragmatic actions were agreed for these purposes, thanks to a joint effort provided by the RENCs with some technical support offered by NOAA/USA.

**Outcome:**

- The WENDWG noted the need to keep the list of WENDWG Members updated (Representatives of RHCs in particular) and to update the WENDWG TORs.

→ Action [WENDWG9/01](#)

- In support of Seabed 2030, the US offered their support to the RENCs, and the IRCC will encourage the ENC Producers to participate in this initiative. France also reminded the US and the IHO/DCDB of the bathymetric services provided by EMODnet in European waters.

→ Action [WENDWG9/12](#)

- The RENCs agreed to investigate the possibility of developing a joint licensing framework for supporting also the non-ECDIS maritime community.

→ Action [WENDWG9/13](#)

## 2. Approval of Agenda and Timetable

Doc: WENDWG9-02A [Agenda and Timetable](#) (WENDWG Sec.)

**Outcome:**

- The WENDWG approved the agenda and timetable and agreed to consider the impact of the amended TORs during the workshop sessions under agenda item 5, when the contribution of the WENDWG to the development of the S-100 Implementation Strategy is addressed.

→ Decision [WENDWG9/02](#)

## 3. Matters Arising from WENDWG-8 Meeting, from HSSC-10, IRCC-10 and C-2

Docs: WENDWG9-03A [Minutes of WENDWG8](#) (WENDWG Sec.)  
WENDWG9-03B [Status of Actions List from WENDWG8](#) (WENDWG Sec.)  
WENDWG9-03C [Outcome of IRCC10](#) (Chair) and [C-2](#) affecting WENDWG (Council Chair and WENDWG Sec.)

The Secretary listed the actions and decisions from the last meeting and provided short comments on their status. Most of them had been, either implemented or completed.

**Outcome:**

- The WENDWG noted the status of actions and agreed to consider some pending actions and former decisions under the relevant agenda items, keeping some of them active.

→ Decision [WENDWG9/03](#)

→ Action [WENDWG9/04](#)

- With regard to the issue related to the “ENCs not distributed through a RENC yet”, an action identified by the IRCC 3 years ago in support of the full implementation of the WEND Principles, after discussion, it was agreed to pursue and simplify the associated actions.

→ Action [WENDWG9/09](#)<sup>1</sup>

<sup>1</sup> Former WENDWG8/13 and WENDWG7/12.

The Chair summarized the report he delivered at IRCC-10 and provided comments on the outcome affecting the WENDWG. These comments were complemented by Director Mustafa Iptes (IRCC Secretary).

The Secretary reported on the outcome of C-2 on the only actions and decisions that have an impact on WENDWG activities. Instructions were received from the IRCC prior to the meeting to address these actions ([IRCC Letter 01/2019](#) dated 18 February refers), included in the WENDWG9 agenda under item 5.

**Outcome:**

- The WENDWG noted the outcome of IRCC-10 and the tasking from C-2.

**4. Review of progress made on the work items of the WENDWG Programme of Work**

**4.1 ENC Coverage and Overlapping Issues**

<i>Docs:</i>	<i>WENDWG9-04.1F1</i>	<a href="#">Report on Global ENC Coverage Report (UK)</a>
	<i>WENDWG9-04.1F2</i>	<i>Assessment of Existing Gaps (RHCs Reps)</i>
	<i>WENDWG9-04.1B3</i>	<i>Monitoring of overlapping ENCs: <a href="#">IC-ENC's Overlapping Data Reporting and Analysis</a> (IC-ENC)</i>

One of the main objectives of the WENDWG is to monitor the application of the WEND Principles by the Hydrographic Offices and the Regional Hydrographic Commissions (RHCs). This encompasses the monitoring of ENC coverage (gaps) and the efforts made to progress with the elimination of overlapping ENCs.

UK provided its annual assessment on global ENC coverage and provided some statistics on previous years historic ENC overlaps as well as some indications, for each RHCs, on the list of ports that might be not covered yet. On this latter assessment, it was noted that the algorithm used by the GIS was probably not robust enough as the assessment was inaccurate, likely due to the limitations of port data name/label positions which may lie outside the geographic coverage of large scale ENCs.

Following the report provided by IC-ENC, the need to improve the accounting of overlaps and the recording of the date from which the “one-year” clock starts was acknowledged.

At the meeting, the US informed that the NGA Publication 150, used as the reference database, for the List of Ports in the IHO ENC Coverage Catalogue and INTtoGIS will be upgraded in 2020. Meanwhile, its maintenance through the provision of new data or corrections by Member States is expected.

*Post-meeting information note (by NGA):* NGA is planning to release an updated version of Pub 150 in its current form early this summer (2019). Following the release, NGA will begin the development of a modernized, web-based World Port Index database. As part of this effort, NGA will perform a major scrub of the data to clean-up errors such as port location being outside of the ENC footprint.

The web-based system should be made available for review by IHO Member States (MS) in early 2020 to provide inputs on format, data fields, etc. The system will have an online form so MS can submit recommendations for correction, deletions or additions to the ports database. NGA will then be able to provide regular updates of the database for use within the IHO GIS services.

**Outcome:**

- The WENDWG Chair thanked the UK for their global ENC coverage report, while noting the GIS information limitations on ports not covered.

- In accordance with Decision WENDWG8/05, the WENDWG kept active the action by which it is up to the RHCs to make their own assessment of the level of navigational risk for ENC overlaps, using the IC-ENC Policy on Risk Assessment as a 1<sup>st</sup> step.
- The WENDWG welcomed the information provided by the US (NGA) on the forthcoming upgrade of P 150 (List of Ports) which will improve accuracy of reporting.

→ Actions [WENDWG9/05](#), [WENDWG9/06](#)

## 4.2 IHO ENC Catalogue

*Docs: WENDWG9-04.2H1 Progress Report on the Development of the IHO ENC Catalogue – [Presentation](#) (WENDWG Sec.)*

The Secretary reminded the Member States that the IHO ENC Coverage Catalogue was referred in the IMO MSC.1/Circ. 1503/Rev.1 dated June 2017 – *ECDIS Guidance for Good Practice*. He reported that the improvement of the functionalities available in the IHO ENC Coverage Catalogue, aiming to provide a better alignment with the ENC flow diagram maintained by the RENCs, was now fully operational with an objective to update its content on a weekly basis. The Secretary also invited the RENCs to clarify their policy in force for the provision of CATZOC values to the IHO Secretariat, CATZOC values that are to be used within INTogIS II (Manager Mode and for MS only).

### Outcome:

- The meeting welcomed the finalization of the development of the IHO ENC Coverage Catalogue with the support provided by the RENCs, and noted the alignment under development with INTogIS II.
- The RENCs confirmed that they maintain the list of the ENC Producers who have agreed to provide CATZOC values to the IHO Secretariat.

→ Action [WENDWG9/07](#)

## 4.3 RENC Harmonization and Distribution

*Docs: WENDWG9-04.3C2 Report on Harmonization Issues (IC-ENC, PRIMAR, EAHC RECC) – PRIMAR 2018 [Report](#) and [Presentation](#) – IC-ENC 2018 [Report](#) and [Presentation](#) – Joint RENC meeting Report - [Recommendations](#)*

*WENDWG9-04.3D3&J5 [RENC Update of the Data Flow Diagram](#) (IC-ENC, PRIMAR)  
- Status report on the ENC Producers who distribute their ENCs through a RENC – Progress Report on ENC full accessibility (All, RENCs, WENDWG Sec.)*

PRIMAR reported on its activities since the last meeting and highlighted important promising developments and projects such as: S-57 data distribution service, S-102 pilot project, S-100 based products data distribution project, dual fuel S-57/S-101 distribution, S-101 upload, validation and distribution services, Part 15 (data protection) of the S-100 standard. These information were considered as a very useful contribution in support of the future S-100 Implementation Strategy.

The WENDWG noted that PRIMAR has plans to distribute non-official ENC data (Category III in S-62) of the ENC Center, National Taiwan Ocean University to give the mariner a choice. Director Iptes reminded that the RENCs' primary task is to deal with official ENCs, in accordance with the WEND Principles (M-3, IHO Resolution 1/1997 as amended, Article 2.c and footnote 6). PRIMAR indicated that they had the support of the local port/state control to distribute the ENCs in the region being discussed. The Secretary also suggested that the reviewing of the SENC distribution agreement by IC-

ENC and PRIMAR could be an opportunity to improve data security and integrity, and asked if some components of Part 15 of S-100 could be incorporated in this agreement.

IC-ENC presented its achievements and its good results for 2018, including significant training components.

**Outcome:**

- Important core actions identified in 2018 (data exchange between RENCs for ensuring quality control, monitoring of the availability of ENC's by RHCs, etc.) were kept active.
- The RENCs provided a useful annual update of the ENC Flow Diagram, and the EA-RECC was invited to consider how they wanted to fit in.

→ Actions [WENDWG9/04](#), [WENDWG9/08](#), [WENDWG9/09](#), [WENDWG9/10](#), [WENDWG9/11](#), [WENDWG9/13](#), [WENDWG9/14](#)

**4.4 The Full Implementation of the WEND Principles – Report by RHCs' Reps on the implementation of ENC Schemes (in accordance with Action IRCC8/13)**

- Docs:* [WENDWG9-04.4H3](#) *Report on the development of approved ENC schemes in every charting regions (S-57 ENC's, then S-101 ENC's), at least for small scales (RHC's Reps.) –* [ARHC](#), [BSHC](#), [EAHC](#), [EAHC](#) & [MBSHC](#), [MACHC](#), [NIOHC](#), [NSHC](#), [RSAHC](#), [SAIHC](#) [Report and Presentation](#), [SWAtHC](#), [SWPHC](#), [USCHC](#)
- [WENDWG9-04.4H4A](#) *Update on Project INTOGIS Phase II -* [Presentation](#)
- [WENDWG9-04.4H4B](#) *Follow-on Action WENDWG8/06 - Worldwide Coverage Statistical Database of AIS Traffic Density.* [Status update report \(US\)](#)
- [WENDWG9-04.4H4C](#) [Comparison by PRIMAR of CATZOC values in TSS, involving more than 1 producing authority – Image – Examples 1, 2, 3, 4](#)

All the RHCs (Charting Regions), NIOHC excepted, provided a status report of their ENC coverage, availability and overlaps in their region.

Some representatives of the RHCs reported on the progress made on the implementation of ENC schemes in their charting region. The situation still varies significantly from one region to another. Most of the RHCs have a pragmatic approach to address this issue. In order to save a significant amount of time for the Charting Regions Coordinators, the Secretary also confirmed that INTOGIS Phase II – which will include ENC Schemes – will take into account the actual ENC coverage to initiate the process of establishing ENC Schemes officially. Then, it will be up to the RHCs to amend the initial database.

The Secretary provided a status report of the experimentation phase of INTOGIS II that ended in October 2018, and thanked the Chart Coordinators from the ARHC, BSHC, EAHC and MBSC for their involvement. The US gave an update of the development of the AIS traffic density that will be included in the system. KHOA was commended for their support on this project. The expecting date for the commissioning of INTOGIS II is postponed to July-August 2019, as it is intended to provide the Members States and Chart Coordinators with all the functionalities and corresponding databases (AIS, ENC Catalogue, Updated CATZOC values).

**Outcome:**

- The WENDWG Chair thanked the representatives of the RHCs for their reports which provided useful complementary information and highlighted some issues on the WEND database covering and overlapping in their regions.

- The RENCs agreed to provide some test-cases of ECDIS behaviours when facing ENC overlaps, in support of the next Conference of the MBSHC.
- The US confirmed the provision of the AIS traffic density database by mid-June 2019.

→ Actions [WENDWG9/15](#), [WENDWG9/16](#),  
[WENDWG9/17](#), [WENDWG9/18](#), [WENDWG9/19](#)

#### 4.5 Capacity Building

*Docs: WENDWG9-04.511 Requests (if any) for capacity building support for compelling requirements in the scope of the WENDWG activities (RHCs Reps.)*

There was nothing to report on this matter, excepted the training sessions on ENC data validation delivered by the RENCs.

#### 5. Workshop Session 1 – Impact of the new TORs and Following on Actions C2/30 and C2/31

*Docs: WENDWG9-05A Impact of [new TORs](#) (Chair)  
WENDWG9-05B Following Actions C2/30 and C2/31 - S-100 Implementation Strategy - Future of WEND Principles (Vice-Chair/Sec.)  
[Presentation](#)  
Supporting Documents: [Instructions](#) from IRCC to WENDWG, [PRIMAR S-100 Development v1.2](#), [“WENS” Principles](#)*

One of the objectives of the 1<sup>st</sup> workshop session was to assess the impact of the new WENDWG TORs, as decided at IRCC-10, on the WENDWG tasks and work items. Different actions had been anticipated at WENDWG-8 in support of the expansion of the scope of work of the WENDWG (development of a licence management service for non-SOLAS class vessels, support of Seabed 2030), so the meeting agreed that these work items needed to be retained in the work programme.

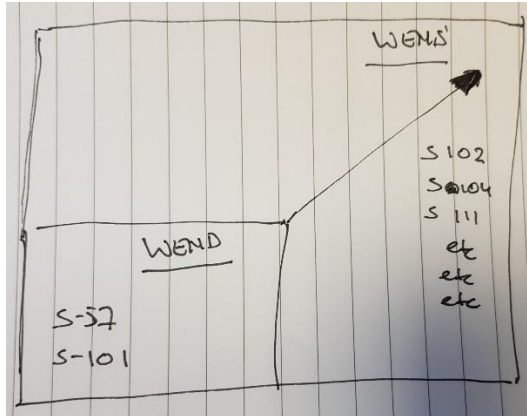
The second and major objective of the 1<sup>st</sup> workshop was related to an action raised at the 2<sup>nd</sup> meeting of the IHO Council (Action C2/30) in support of the development of the S-100 implementation strategy (Action C2/31). The action was for the WENDWG, under the instructions of the IRCC, *to investigate the applicability of the WEND-like Principles to the production and dissemination of S-101 ENCs and the first generation of S-100 based products and to report back at C-3.*

The Vice-Chair and PRIMAR introduced the topic through two illuminating presentations. The meeting agreed that there was some benefit for S-100 based products to “re-design” the WEND Principles which were so helpful over the last decade in the development of a seamless and consistent ENC coverage in support of ECDIS carriage requirements.

For this workshop session, the US had prepared a straw man paper promoting the development of WEND-like Principles in support of S-100. These so-called WENS [draft] Principles were positively received. The Secretary suggested to report at IRCC-11 that the WENDWG should develop further these WEND-like Principles for supporting the production and dissemination of S-101 ENCs and the first generation of S-100 based products, but as a consequence, in order to do so, the TORs of the WENDWG needed some amendments.



At this stage, no decision was taken at the WENDWG-9 meeting on the way forward (new WENS Principles versus amendments to TORs with a wider mandate for including navigation services).



Conceptual sketch, “from the WEND to WENS (Worldwide Electronic Navigation Services)”

**Outcome:**

- Following Action C2/30, the WENDWG agreed to report at IRCC that the development of WEND-like Principles in support the implementation strategy for S-100 based products was deemed necessary.
- An ad hoc drafting group agreed to prepare a consolidated version of WEND-like Principles to be provided in attachment of a submission paper to IRCC.

→ Decisions [WENDWG9/20](#), [WENDWG9/21](#)  
 → Actions [WENDWG9/22](#), [WENDWG9/23](#)

**5. Workshop Session 2 – Following on Actions C2/27 and C2/28**

Docs: WENDWG9-05C

Implementation of IHO Resolution 1/2018

Useful References: Doc. [C2-4.2B](#) and associated [Presentation](#), [IHO CL 19/2018](#) - Adoption of IHO Resolution 1/2018 on the elimination of overlapping ENC data, [Instructions](#) from IRCC to WENDWG

Following the reports provided by the representatives of the RHCs and the issues raised at the 2<sup>nd</sup> meeting of the IHO Council, several actions and decision were agreed to assess the feasibility of the operational implementation of the IHO Resolution 1/2018 - *Elimination of overlapping ENC data in areas of demonstrable risk to the safety of navigation* -, noting that in some Charting Regions the situation is not improving. The RENCs will try, for instance, to improve their tracking and accounting procedures, in support of ENC Producers and RHCs, while the IHO Secretariat is now preparing the commissioning of the enhanced version of the INTToGIS system (INTToGIS II), which includes an ENC overlap checker function.

**Outcome:**

- Unless bilateral discussions can solve remaining overlaps soon, there was a general agreement that time has come to start applying the different steps identified in IHO Resolution 1/2018, with common sense and on a case-by-case basis, to be in a more robust position for assessing the efficiency of this Resolution in the near future.

→ Decision [WENDWG9/26](#)  
 → Actions [WENDWG9/19](#), [WENDWG9/24](#), [WENDWG9/25](#), [WENDWG9/27](#), [WENDWG9/28](#)

## 6. Review and update of the WENDWG Programme of Work – Preparation of Report to IRCC-11 and inputs expected from the WENDWG to C-3 and A-2

Docs: WENDWG9-06A WENDWG [Programme of Work for 2018-19](#) (as approved at IRCC-10)

WENDWG9-06B WENDWG [Programme of Work for 2019-20](#) (to be approved at IRCC-11)

### Outcome:

- Based on the previous programme of work, the update of the WENDWG Programme of Work for 2019-20 was agreed and the work items updated in accordance with the actions raised during the meeting.

- Decision was made to recommend to the IRCC that the WENDWG continues its activities.

→ Action [WENDWG9/29](#)

## 7. Review of the WENDWG-9 List of Decisions and Actions

### Outcome:

- The participants agreed on the list of decisions & actions during the review made at the end of the meeting.

## 8. Any other business – Information Papers

Docs: WENDWG9-08.1A [Remote ENC Update Service](#) (Powered by ESYNC) - Redistribution of ENC Products (US)

At the end of the meeting, the US (NGA) presented an information paper on different issues related to the production and distribution of ENC (and DNC) updates: labour-intensive production of unique patches, etc. that can now be solved, thanks to a technical proprietary solution powered by Esync. PRIMAR took opportunity to indicate the availability of the PRIMAR Update Tracker (PUT)<sup>2</sup> and the PRIMAR Update Protocol, automatically pushing ENC updates to the end-users.

## 9. Next Meeting Dates and Venue – Conclusion

### Outcome:

- The WENDWG welcomed the offer made by China, to host the next meeting (WENDWG-10) back-to-back with the 5<sup>th</sup> Joint RENC-WENDWG-IHO Sec. meeting, from 18 to 20 February 2020 in Hong Kong, China.

→ Decision [WENDWG9/30](#)

- Due to the transition phase in progress (from S-57 ENCs to S-100 based products), the meeting agreed that it might be wise not to open the next meeting to external stakeholders. This will be decided by the Chair on a case-by-case basis anyway.

<sup>2</sup> <https://www.primar.org/update-tracker>



The Chair, on behalf of the participants, expressed his sincere gratitude to Shom and its staff for its great hospitality and support provided to the meeting. He thanked the participants for their active participation and the progress made by the WENDWG.

### List of Participants

(Based on the WENDWG Membership List)

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<sup>6</sup> Representing SWPHC at the WENDWG-9.

<sup>7</sup> Participation in some sessions only.

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## LIST OF ACTIONS&amp;DECISIONS FROM WENDWG-9

**Note:** In this list of decisions & actions, when using “*RHCs, HOs, IHO Member States XX, RENCs, WENDWG Sec. to consider, to do, to...*”, it means that decisions and actions are assigned to the representatives of these entities in the WENDWG. Subsequent actions are then to be considered by appropriate bodies.

AGENDA ITEM/WORK IEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 28 Feb 2019)
<b>1. Opening and Administrative Arrangements</b>					
	WENDWG Membership	WENDWG9/01	<b>Members and RHCs</b> to review the WENDWG Membership List and provide updates to the <b>WENDWG Sec.</b>	<b>Permanent</b>	Updates provided for MACHC and RSAHC
<b>2. Approval of Agenda</b>					
	Agenda	WENDWG9/02	The <b>WENDWG</b> approved the agenda and timetable.		Decision
<b>3. Matters arising from WENDWG-8 Meeting, from HSSC-10, IRCC-10 and C-2</b>					
	IHO CL 19/2018	WENDWG9/03 (former WENDWG9/04)	The <b>WENDWG</b> <sup>8</sup> agreed that the one-year “clock” should start <u>once</u> the overlapping issues, starting with potential “highest” risk cases, have been reported to the ENC Producers, the management of these cases to be implemented by the <b>RHCs</b> , keeping the WENDWG informed and report to IRCC, as appropriate.		Decision (kept active for tracking purposes)

<sup>8</sup> **TR** objected on this decision. See Annex B of WENDWG8 Report.

AGENDA ITEM/WORK IEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 28 Feb 2019)
	Data validation and quality insurance	WENDWG9/04 (former WENDWG9/11)	The <b>RENCs</b> to benchmark their ENC's data validation, updates and release processes and provide a set of recommendations at the next meeting, if appropriate.	<b>WENDWG-10</b>	
<b>4. Review of progress made on the work items of the WENDWG Programme of Work</b>					
<b>4.1 Overlapping Issues and ENC Coverage</b>					
	ENC Global Coverage and Overlapping Report	WENDWG9/05 (former WENDWG9/05)	<p><b>UKHO</b> to continue the provision of global statistics and numbers on ENC coverage and overlaps, but clarify the GIS algorithm that is used when identifying the ports listed as “NOT covered”.</p> <p>After analysis and where appropriate, <b>UKHO</b> to provide an update of the Excel file (incl. the list of Ports “NOT covered”), to the WENDWG Sec.</p> <p>In accordance with Decision WENDWG9/04, <b>RHCs</b> to make their own assessment of the level of navigational risk for ENC overlaps, using the IC ENC Policy on Risk Assessment as a 1<sup>st</sup> step, when and where applicable.</p>	<p><b>2 months prior to WENDWG-10</b></p> <p><b>ASAP</b></p> <p><b>Permanent</b></p>	



AGENDA ITEM/WORK IEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 28 Feb 2019)
	List of Ports	WENDWG9/06 (former WENDWG9/09)	<p><b>RHCs/HOs</b> invited to report to NGA directly (Gerald Walter, Gerard.J.Walter@nga.mil) if inconsistencies need to be corrected in the List of Ports (based on the NGA P 150).</p> <p><b>US (NGA)</b> to inform the WENDWG Secretary when the new version of the NGA P 150 database is available (impact on IHO ENC Catalogue and INTOGIS II)</p>	<p><b>Permanent</b></p> <p><b>As appropriate</b></p>	
<b>4.2 IHO ENC Catalogue</b>					
	IHO ENC Catalogue - CATZOC values	WENDWG9/07	<p><b>WENDWG Chair</b> to report to IRCC that those ENC Producers who have yet to do so, should be invited to provide their agreement to their RENC, for making CATZOC values available in the additional layers of INTOGIS II (Manager Mode only, available to MS only).</p> <p><b>PRIMAR and IC-ENC</b> to review the provision of CATZOC data on behalf of the RENC members / licensing partners and to maintain the list of ENC Producers who have agreed to release their CATZOC values (incl. caveats).</p> <p><b>IHO Secretariat</b> to download, on a routine basis (monthly?, tbc), the CATZOC values (for INTOGIS II purposes) using the PRIMAR link/interface.</p>	<p><b>IRCC-11 (15 April)</b></p> <p><b>WENDWG-10</b></p> <p><b>Permanent</b></p>	
<b>4.3 RENC Harmonization and Distribution</b>					

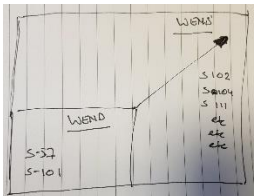
AGENDA ITEM/WORK ITEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 28 Feb 2019)
	RENC-RENC Cooperation	WENDWG9/08	The <b>EAHC RECC</b> to consider the last version <sup>9</sup> of the RENC Data Flow Diagram and report on how and when they would like to fit in.	<b>Joint RENC meeting, WENDWG-10</b>	
	ENCs not distributed through a RENC yet	WENDWG9/09	<b>RHCs</b> to report to WENDWG where exclusive cells in the respective usage bands exist within their regions.  <b>WENDWG</b> to monitor the progress made on an annual basis through the RENCs' ENC Data Flow diagram updates.	<b>WENDWG-10</b>  <b>WENDWG-10</b>	
	Quality control, risk assessment	WENDWG9/10 (former WENDWG9/14)	<b>WENDWG Chair</b> to report to IRCC that all Produced ENC <i>data</i> (incl. "exclusive") <u>must</u> be made available to every RENC for them to ensure quality control (overlapping checks, risk assessment, etc.).	<b>IRCC-11 (15 April 2019)</b>	
	Quality control, risk assessment	WENDWG9/11 (former WENDWG9/15)	<b>IC-ENC</b> and <b>PRIMAR</b> to develop further the possibility of exchanging ENC <i>data</i> for harmonization purposes, improving overlapping risk assessment and quality control in general and <b>EAHC-RECC</b> to consider how they can contribute and benefit from this process.	<b>WENDWG-10</b>	

<sup>9</sup> Edition 4.1, February 2019 ([www.ihp.int](http://www.ihp.int)) > ...>WENDWG > WENDWG Repository > Distribution of ENCs

AGENDA ITEM/WORK IEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 28 Feb 2019)
	Data Extraction in support of Seabed 2030	WENDWG9/12	<p><b>US (NOAA)</b> to submit a management procedure and technical proposal to the RENCs aiming to extract bathymetric data from ENC's in order to support Seabed 2030, and...</p> <p>...<b>IRCC</b> to encourage the ENC Producers within the RHCs to participate in the Seabed 2030 Project by providing their agreement to the RENCs for releasing their bathymetric data from ENC's</p> <p>As a first step for European waters, <b>US (NOAA)</b> and <b>IHO/DCDB</b> to consider the possibility of using the EMODnet Bathymetry data for Seabed 2030.</p>	<p><b>May 2019</b></p> <p><b>IRCC-11</b></p> <p><b>IRCC-11</b></p>	
	Harmonized licensing approach to support all vessels (leisure boats, etc.)	WENDWG9/13 (former WENDWG9/21)	<b>RENCs</b> to consider the way forward for drafting a core joint RENC framework for navigation Non-ECDIS licensing.	<b>WENDWG-10</b>	
	SENC Distribution - Data Protection and Integrity	WENDWG9/14	When reviewing the SENC distribution agreement and certification mechanisms, <b>RENCs</b> to consider, in liaison with DQWG and the outcome of Part 15 of S-100 (in progress) how data protection and integrity can be reinforced.	<b>WENDWG-10</b>	
<b>4.4 The Full Implementation of the WEND Principles – Report by RHCs’ Reps on the implementation of ENC Schemes (in accordance with Action IRCC8-13)</b>					

<b>AGENDA ITEM/WORK IEM</b>	<b>SUBJECT</b>	<b>ACTION No.</b>	<b>ACTIONS&amp;DECISIONS (in bold, action by)</b>	<b>TARGET DATE/EVENT</b>	<b>STATUS (at 28 Feb 2019)</b>
	ENC Schemes	WENDWG9/15 (former WENDWG9/16)	The <b>WENDWG</b> agreed to use the existing IHO ENC coverage catalogue as the initial mechanism to easily build version 1.0 of the ENC Schemes database in the INToGIS II system.		Decision (kept active for tracking purposes)
	ENC Schemes	WENDWG9/16 (former WENDWG9/17)	As soon as INToGIS II is commissioned, <b>RHCs</b> to define and adopt ENC Schemes (as it is done for INT Charts Schemes) and submit their update.	<b>WENDWG-10</b>	
	Gap Analysis - AIS Traffic Density	WENDWG9/17	<b>US</b> to pursue the development of the worldwide coverage statistical database of AIS traffic density, available to all RHCs and IHO Member States taking into account the requirements explained at WENDWG9 (vessels categories breakdown, stats for 2 rolling years range, resolution for every month). Associated description of the database to be provided (incl. copyright issues, usage limitations, if any).  <b>IHO Sec</b> to make this AIS statistical database available to all Member States as part of the risk assessment tools within INToGIS II.	<b>End of June 2019</b>  <b>When INToGIS II is commissioned (mid-2019, tbc)</b>	
	ENC Schemes	WENDWG9/18	<b>WENDWG Chair</b> to report at IRCC that report from the <b>NIOHC</b> has not been delivered at WENDWG meetings as requested.	<b>IRCC-11 (15 April 2019)</b>	

<b>AGENDA ITEM/WORK IEM</b>	<b>SUBJECT</b>	<b>ACTION No.</b>	<b>ACTIONS&amp;DECISIONS (in bold, action by)</b>	<b>TARGET DATE/EVENT</b>	<b>STATUS (at 28 Feb 2019)</b>
	IHO Resolution 1/2018	WENDWG9/19	<b>IC-ENC</b> to consider the possibility of providing the MBSHC Chair, the Region F Chart Coordinator and the IHO Secretariat, with deeper analysis of the effect of overlapping ENC's in the Region and their possible impact on safe navigation, including examples of ECDIS "behaviour" snapshots	<b>End of April 2019 (for being considered at MBSHC-21)</b>	
<b>5. Workshop Session 1 – Impact of the new TORs and Following on Actions C2/30 and C2/31</b>					
	Impact of new TORs	WENDWG9/20	Reviewing the new TORs, the <b>WENDWG</b> agreed that there was no need at this stage to amend the current objectives and tasks assigned by IRCC to the WENDWG in its programme of work...		<u>Decision</u>
	WEND-like Principles	WENDWG9/21	The <b>WENDWG</b> agreed that WEND-like Principles should be developed to support the production and dissemination of S-101 ENC's and the first generation of S-100 based products... ...and welcomed a draft proposal submitted by the US in session, as a possible key component of a global S-100 based Products Implementation Strategy (under development)		<u>Decision</u>

AGENDA ITEM/WORK IEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 28 Feb 2019)
	WEND-like Principles 	WENDWG9/22	<b>WENDWG Members</b> (BR, IT, NL, NO, RENCs, UK, US) to provide their inputs/comments to the strawman paper on the Worldwide Electronic Navigation Services (WENS) Principles <sup>10</sup> as presented at WENDWG-9 (US Pocs: <a href="mailto:john.nyberg@noaa.gov">john.nyberg@noaa.gov</a> ; <a href="mailto:jonathan.justi@noaa.gov">jonathan.justi@noaa.gov</a> )  <b>US (on behalf of WENDWG Chair)</b> to submit an interim report (one or several options tbc) to IRCC for discussion in response to C2/30 and C2/31	<b>End of March</b>  <b>End of April</b>	
	WEND-like Principles	WENDWG9/23	As part of his report to IRCC, <b>WENDWG Chair</b> to submit a proposal aiming to amend the TORs of the WENDWG, by adding item 1.c <i>“to investigate the applicability of WEND-like Principles to the production and dissemination of S-101 ENC’s and the first generation of S-100 based products”</i>	<b>IRCC-11 (15 April)</b>	
<b>5. Workshop Session 2 –Following on Actions C2/27 and C2/28</b>					
	Overlaps	WENDWG9/24	First, <b>WENDWG Chair</b> , supported by the RENCs, to report to IRCC on the overlap cases reported at WENDWG-9 for Charting Regions where concerns have been reported	<b>IRCC-11 (15 April)</b>	

<sup>10</sup> John Nyberg (WENDWG Vice-Chair, US) to send a version-controlled of the WENS Principles to the drafting group, Cc WENDWG Chair/Sec, by end of February 2019.



AGENDA ITEM/WORK ITEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 28 Feb 2019)
	Overlaps	WENDWG9/25	<b>RENCs</b> to investigate how to better coordinate tracking of overlaps in order to provide a fair and actual global RENC overlap «picture»	<b>WENDWG-10</b>	
	Overlaps Risk Assessment	WENDWG9/26	<b>The WENDWG</b> agreed that the criticality of the risk as assessed by the RENCs should only be used as an indication of priority for handling and solving overlaps		Decision
	IHO Resolution 1/2018	WENDWG9/27	<b>WENDWG</b> to prepare an assessment of the effectiveness of the IHO Resolution 1/2018 at its next meeting for being considered at IRCC-12	<b>WENDWG-10</b>	
	IHO Resolution 1/2018	WENDWG9/28	<b>WENDWG Chair</b> to liaise with the Chair of the WNWNS-SC on the operational feasibility of the implementation of Art. 1.7.3 of IHO Resolution 1/2018	<b>End of April 2019</b>	
<b>6. Review and update of the WENDWG Programme of Work – – Preparation of Report to IRCC-11 and inputs expected from the WENDWG to C-3 and A-2</b>					
	IRCC-11 Preparation	WENDWG9/29	<b>WENDWG Chair</b> to submit the WENDWG report to IRCC-11, highlighting the new work and priority items (for C-3), including the WENDWG 2019-20 Programme of Work and recommend to IRCC-11 in accordance with Article 4.4 of WENDWG TORs, that the WENDWG is kept <b>active</b> .	<b>By 15 April (IRCC-11 submission deadline)</b>	
<b>8. Any other business – Information Papers</b>					
<b>9. Next meeting dates and venue</b>					

AGENDA ITEM/WORK ITEM	SUBJECT	ACTION No.	ACTIONS&DECISIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at <b>28 Feb 2019</b> )
	WENDWG-10 and RENCs Co- operation	WENDWG9/30	<b>WENDWG</b> welcomed the offer made by HK China to host the WENDWG-10 meeting and the Joint RENCs meeting (18-20 Feb 2020)		<u>Decision</u>