

21<sup>th</sup> Conference of MBSHC  
11 – 13 June 2019 (Cádiz, España (Spain))

IHO Work Programme 1 – “Corporate Affairs”  
Information Management (IHO Website, IHO GIS,...)

(Agenda items MBSHC21-04.2)

IHO Secretariat



# Contents

Single Interface to IHO GIS Applications

IHO Country Information Database

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Actions to be considered by MBSHC

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Single Interface to IHO GIS Applications

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INToGIS II

Actions to be considered by MBSHC

Principles in  
Doc. [MBSHC20-04.2](#) still  
applicable...  
... but important  
evolutions in preparation



**Website Content Alert Service**  
 Website Content Alert Service

**Upcoming Events/Événements à venir**  
 Upcoming Public Events / Événements publics à venir  
 IHO Meetings & Events / Réunions & Événements OHI

**World Bathymetry**  
 The IHO DCDB  
 IHO GIS  
 Download World Bathymetric Data  
 Contribute ENC Data to GEBCO

**IHO Disclaimer, Privacy and Copyright Notice**  
 IHO Disclaimer, Privacy and Copyright Notice

You are here: Home > IHO GIS  
 GIS / SIG

**Search**  
 Search  Go

<b>IHO Geographic Information System</b>	<b>Système d'information géographique de l'OHI</b>
<b>Country Information System</b>	<b>Système d'information sur les pays</b>
• IHO Membership	• Composition de l'OHI
• MSDI National Geoportals	• Geoportails MSDI nationaux
<b>Regional Information Systems</b>	<b>Systèmes d'information régionaux</b>
• Antarctic GIS	• SIG Antarctique
<b>Chart Information Systems</b>	<b>Systèmes d'information sur les cartes</b>
• International Chart GIS	• SIG des cartes Internationales
• IHO ENC Catalogue	• Catalogue des ENC de l'OHI
• Undersea Feature Name Gazetteer	• Index des noms des formes du relief sous-marin
<b>Capacity Building Information</b>	<b>Information sur le renforcement des capacités</b>
• CHART Project	• Projet CHART
<b>World Bathymetry Information</b>	<b>Bathymétrie mondiale</b>
• IHO Data Centre for Digital Bathymetry (DCDB)	• Centre de données de l'OHI pour la bathymétrie numérique (DCDB)
• Contribute ENC data to GEBCO	• Contribuer des données ENC pour la GEBCO

Sir

ns





### IHO Country Information System

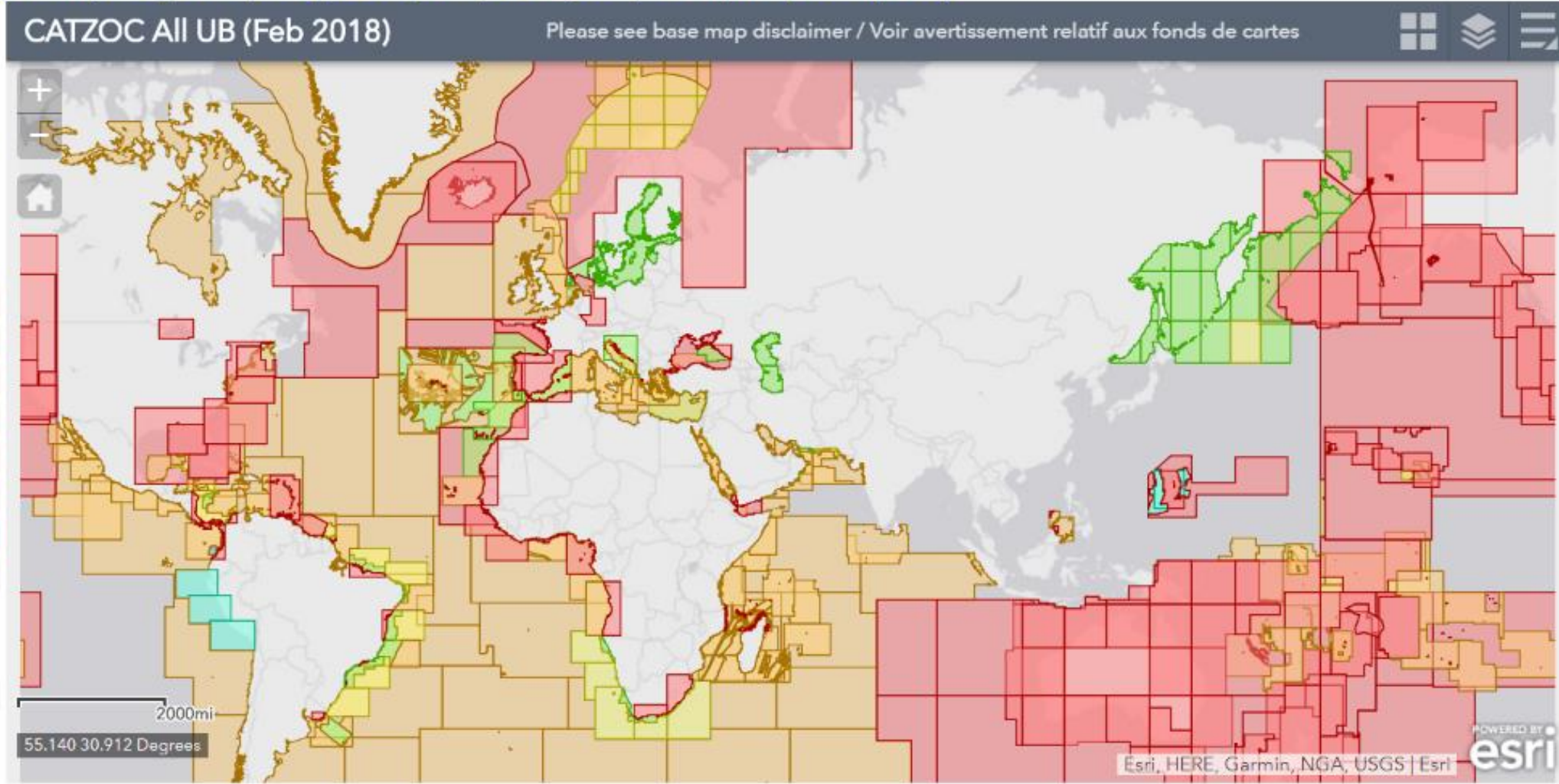
Country / Area index  
select the country

- Download P5 from IHO website
- Download Member State map
- Download CSV data set
- Download PDF data set
- Display change logs
- Register information
- Publish files
- Tutorial

Administrator

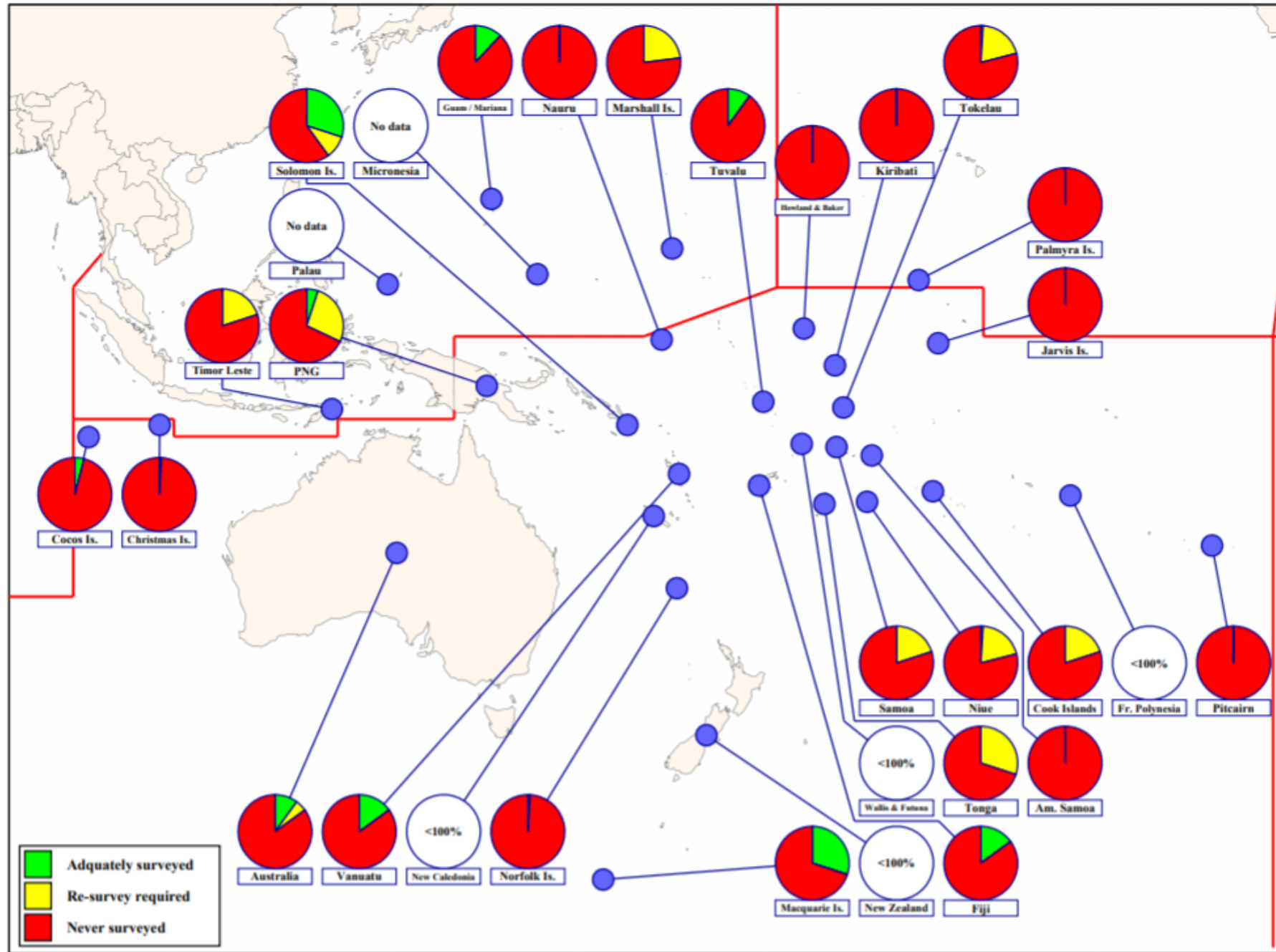
Country map	C55 Charting	C55 Surveying	C55 GMDSS	C55 Warnings	CATZOC	Boundary	RHC	Other GISs	Reset Token
All (simplified)	GB charts extcd.	GB charts orig.	Un-assessed	Antarctic					
UB1 simplified	UB2 simplified	UB3 simplified	UB4 simplified	UB5 simplified	UB6 simplified				

Set center Lat  Lon  Level

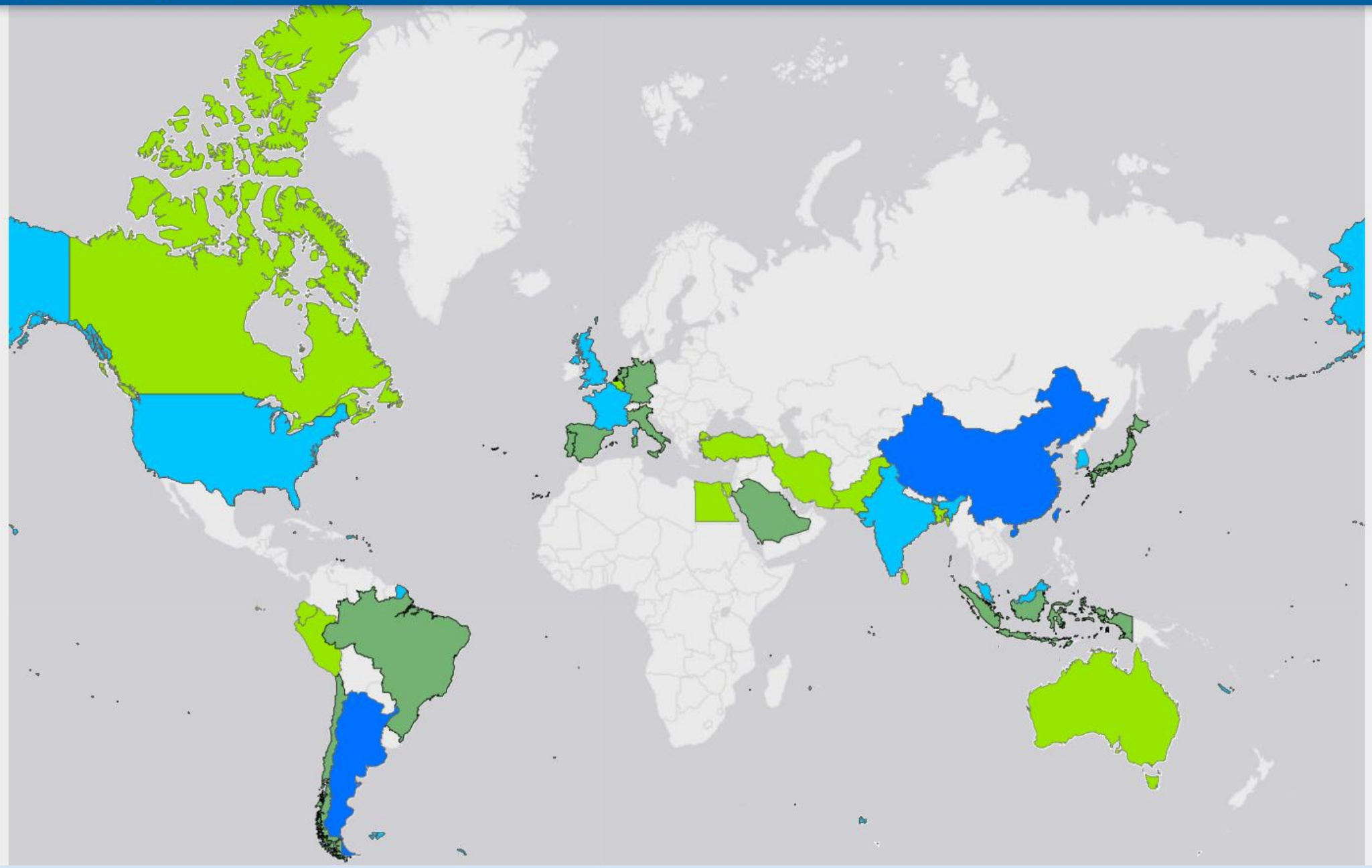


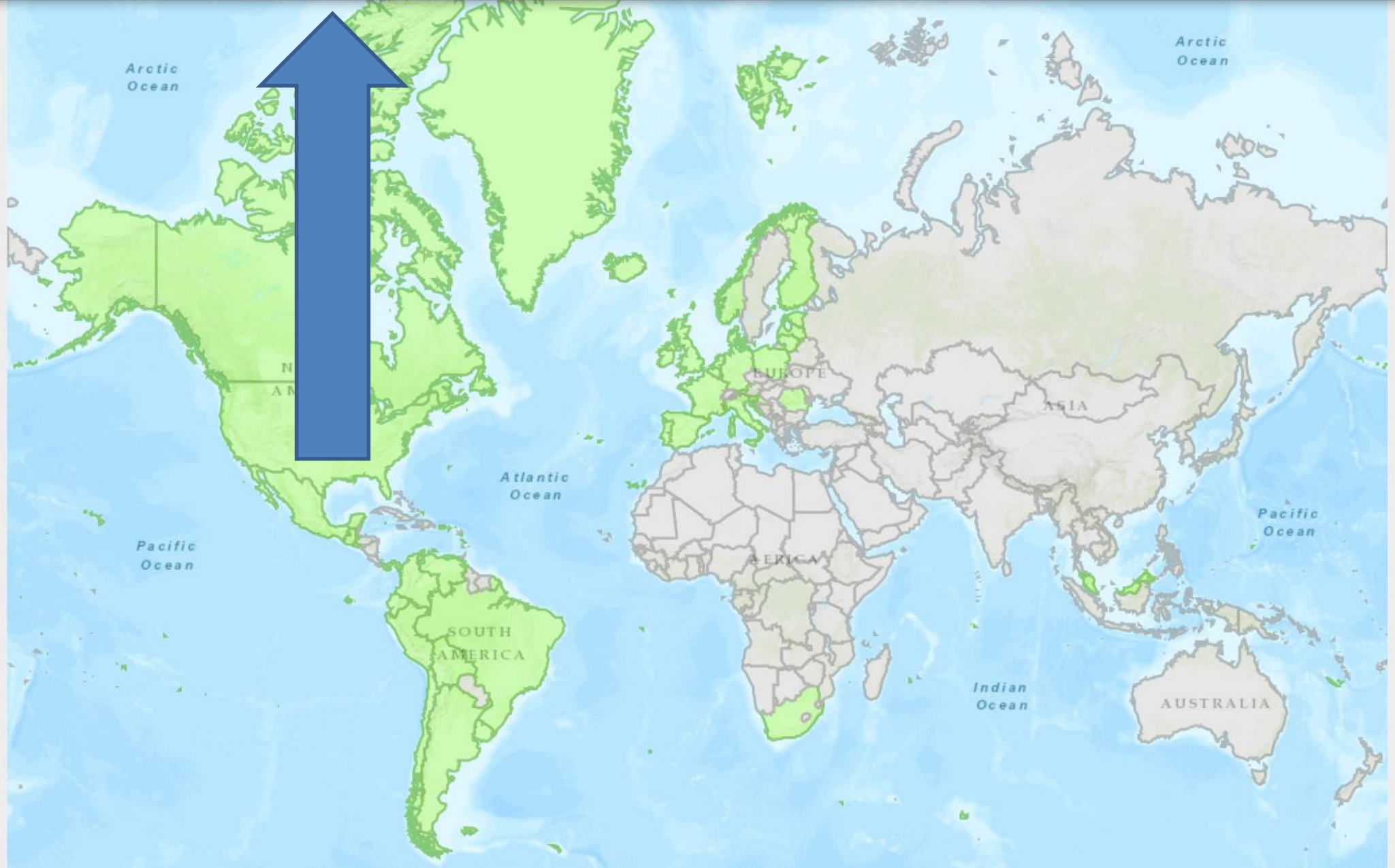
Charts displaying maritime boundaries are for **INTERNAL IHO SECRETARIAT USE ONLY**

# SWPHC - Survey in deep water (>200 m) -

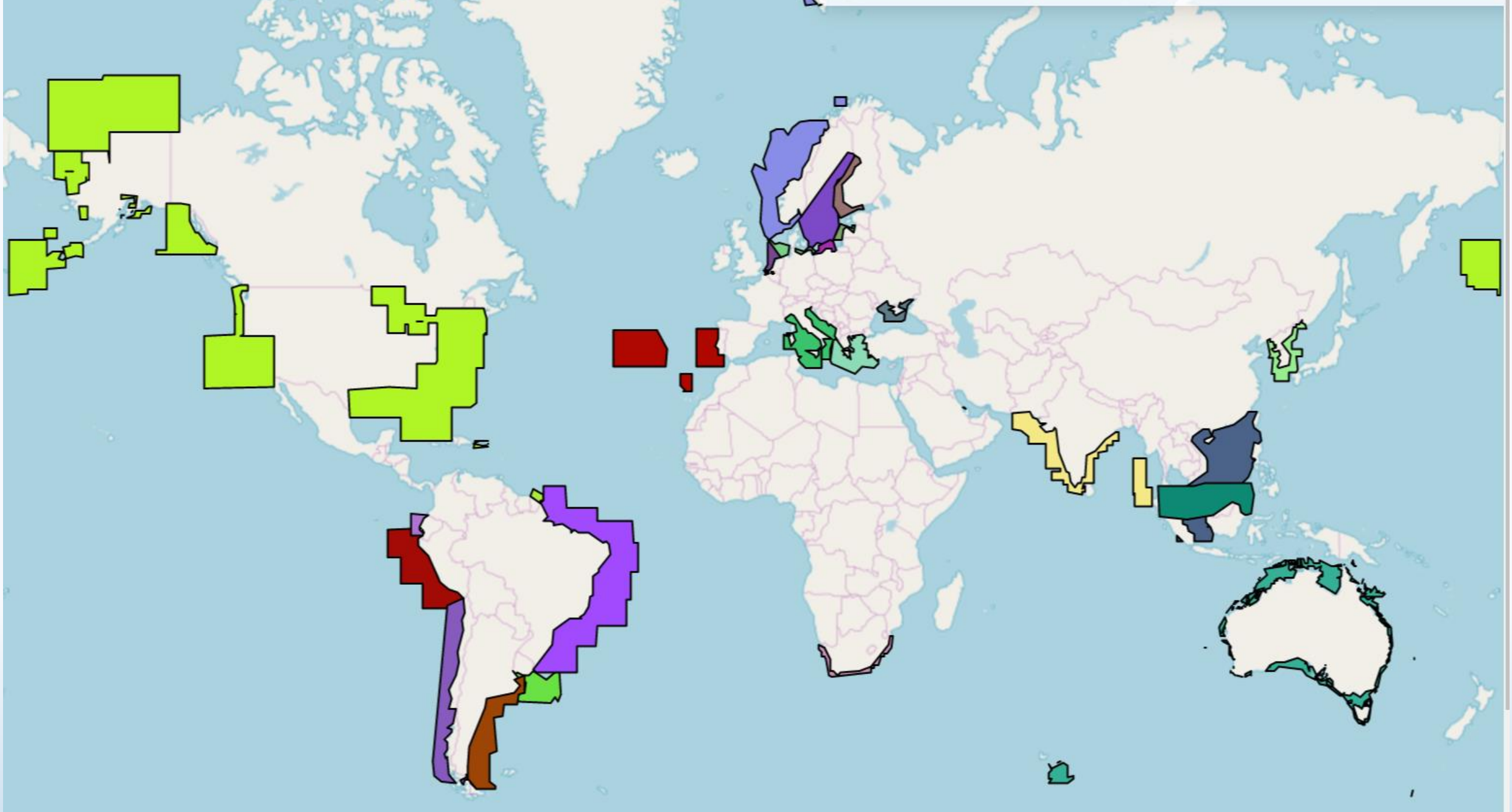






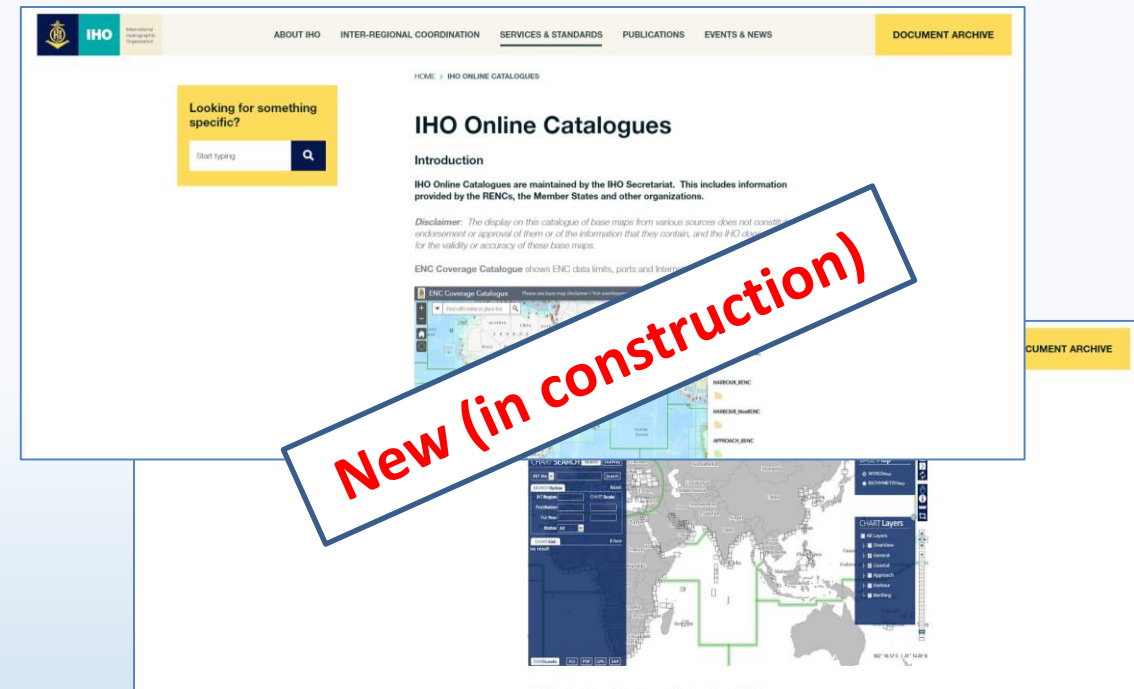






# New IHO website (in progress)

- In accordance with the new branding material of IHO (ref. IHO CL 24/2019), the new IHO website is being developed. (estimated to launch in Dec.)
- In the new website which is expected to improve user experience, all IHO-GIS services will be available in a single page with intuitive images.



# IHO Online form system launched. (ref. IHO CL 20/2019)

- Member States are now invited to submit information for updating **C-55** and **P-5** “Yearbook” as well as CL responses through the system. (Password already announced.)
- Please put two email addresses (personal and official HO address listed in P-5) for credibility.
- Internet Explorer is not supported.
- Submission via fax, email etc. is still available.

A submission page for the IHO publication C-55 updating.



A submission page to the IHO Circular Letter.



Your response to the IHO CL (receipt)

For your submission, \*

- I consent that the IHO Secretariat will collect and use submitted information only for the original purpose to collect Circular Letter responses.
- No, I do not consent.

ould be further  
otation and  
endorsement or  
he Member

ing:

For C-55 and P-5

[https://iho.formstack.com/forms/web\\_form\\_c55](https://iho.formstack.com/forms/web_form_c55)

[https://iho.formstack.com/forms/web\\_form\\_p5](https://iho.formstack.com/forms/web_form_p5)

For the CL responses, the URL will be announced in the CL.

# IHO Online form system launched. (ref. IHO CL 20/2019)

- A PDF receipt (right) will be sent to the two addresses for record and the declared email addresses will be checked with Yearbook. In a few days, the submitted data will be reflected to the publications.
- Member States are kindly requested to keep updating the information on Yearbook (P-5).



Submission Time: January 31, 2019 4:08 pm  
Unique ID: 474119437

**Your response to the IHO CL (receipt)**

The IHO Secretariat will collect and use submitted information only for the original purpose to collect Circular Letter responses. Do you agree with it?  Yes, I agree.

IHO CL number	9999/2019
	JP   Japan
Data provider's Name	Mr Test Person
Data provider's email address	naohiko.nagasaka@iho.int
Official email address of the hydrographic organization	naohiko.nagasaka@iho.int
Organization to which data provider is belonging	Test Organization
Phone of data provider	+377 93 10 81 00
Department, division of data provider	Test Department
Position or job title of data provider	Test Position

**Q1**

Does your country agree to the revision of IHO publication C-999?  Yes

**Q2**

Does your country have any idea on blahblah?  This is a test comment! French, Spanish characters also accepted! Ç é à, ê, î, ô, ù à, è, ü!!



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**IHO ENC Coverage Catalogue**

INToGIS II

Actions to be considered by MBSHC

# Background information

## Objective of the IHO ENC Catalogue

IMO NCSR 1/WP.8\* “ECDIS – Guidance for Good Practice”

“

...

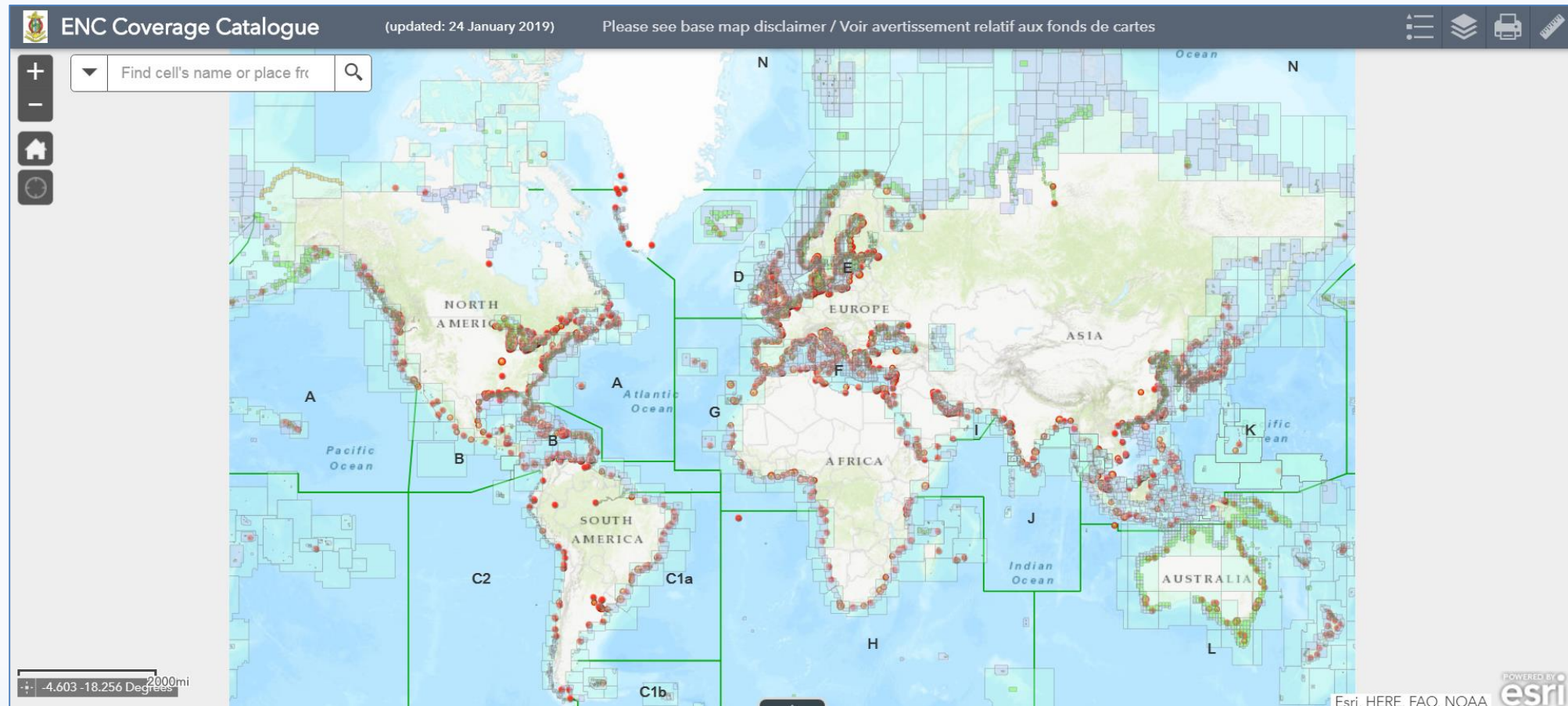
*The IHO provides an **online chart catalogue** that details the coverage of ENCs together with references to coastal state guidance on any requirements for paper charts (where this has been provided). The catalogue also provides links to IHO Member States’ websites where additional information may be found. The IHO online chart catalogue can be accessed from the IHO website.*

”

...

\*now superseded by **MSC.1/Circ. 1503/Rev.1**, 16 June 2017

# Background information



[www.who.int](http://www.who.int) > ENC & ECDIS > ENC Availability

# Background information

WENDWG8/10

“ ...  
The WENDWG agreed to commission the **new and more comprehensive version** of the IHO ENC Coverage Catalogue as presented at WENDWG-8. ...”



# Improvements on IHO ENC Catalogue

More frequent updating (monthly to **weekly**)

Cells derived from RENC and Non-RENC are integrated

IC-ENC data and PRIMAR data are used for the updating

The classification is based on:

[“RENC Update of the Data Flow Diagram”](#)

Search function for **cell names**, attribute table is available  
ENC database alignment with INTToGIS II is **in progress**

# Improvements on IHO ENC Catalogue

ENC Coverage Catalogue (updated: 5 February 2019) Please see base map disclaimer / Voir avertissement relatif aux fonds de cartes

Find cell's name or place fr

Weekly update

Cell name search

RENC/non-RENC

Layer List

- BERTHING\_RENC
- BERTHING\_NonRENC
- HARBOUR\_RENC
- HARBOUR\_NonRENC
- APPROACH\_RENC
- APPROACH\_NonRENC
- COASTAL\_RENC
- COASTAL\_NonRENC
- GENERAL\_RENC
- GENERAL\_NonRENC
- SmallPorts
- MediumPorts

Options Filter by map extent Zoom to Clear selection Refresh

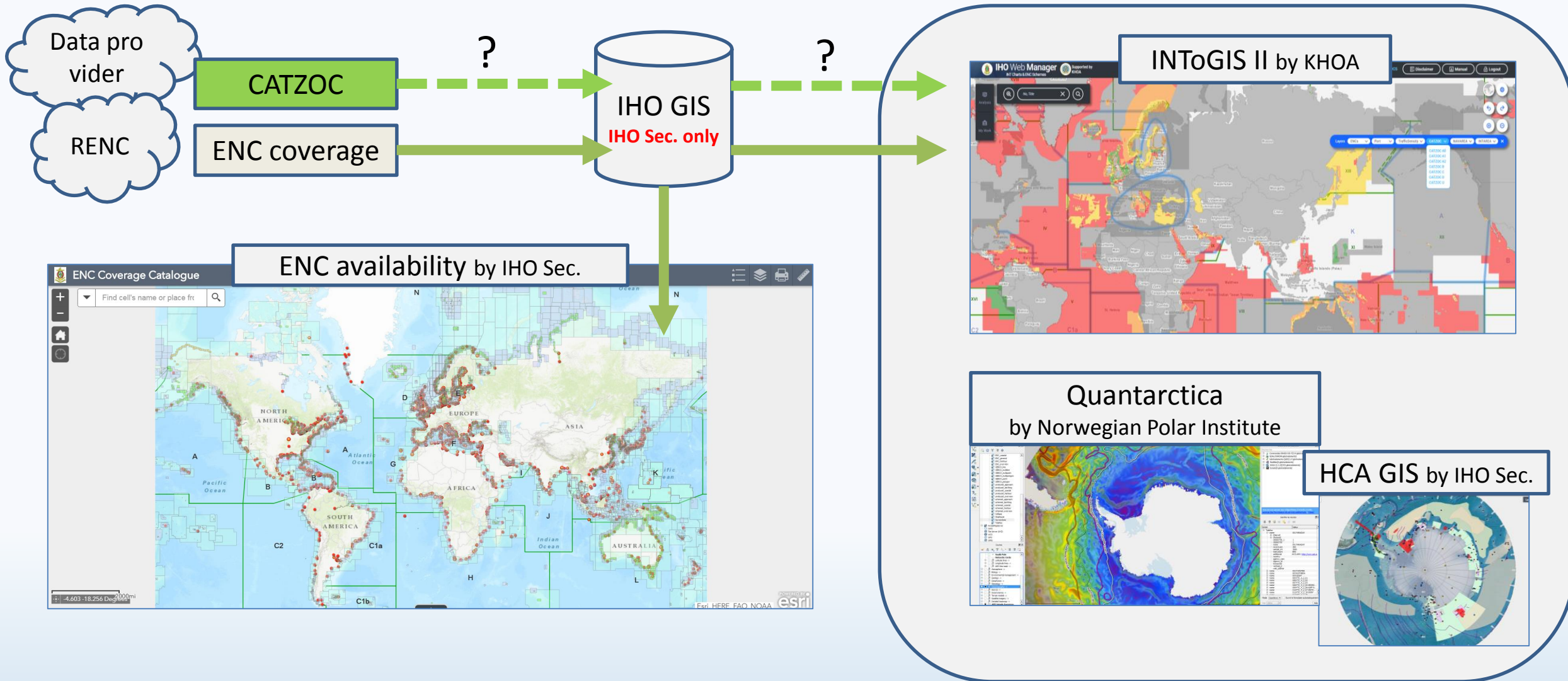
Cell_Name	Cell_Scale	Cell_Band	Produced	RENC_flag
GB602376	12,000	BERTHING	United Kingdom	Non RENC
GB63317B	8,000	BERTHING	United Kingdom	Non RENC
GB63317D	12,000	BERTHING	United Kingdom	Non RENC
GB62618D	8,000	BERTHING	United Kingdom	Non RENC

All attribute is available here

View in Attribute Table

Show item details

# For more connected GIS services



# Way ahead

Link the IHO ENC Catalogue and the **INT Chart & ENC Schemes Web Catalogue**  
→ **In progress** (Reference: INTToGIS Phase II Project), Charting Regions, etc.

Improve the automated generation of IHO Performance Indicators and information to be reported to IMO (NCSR)

→ **On hold**, waiting for outcomes of the Strategic Plan Review WG

Improve display to align with ENC Data Flow Diagram

→ **Done**, developed by RENCs in liaison with IHO Secretariat



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**INToGIS II**

Actions to be considered by MBSHC

# Background (1/2)

- **Purpose** of the INTToGIS Project

- Support **International Chart and ENC Scheme** of S-11
- Provide **systematic management procedures** and functionality
- **Share the digital data** among the IHO MSs and other parties with common data format such as EXL, SHP and GML (S-128)

- **History**

- INTToGIS Project I (2014 ~ 2015) : INT chart web-service and management via web system
- Operation started since early 2016
- INTToGIS Project II (2017 ~ 2018) : adding ENC schemes to the system and overlay information, and improve the GUI



# Background (1/2)

- **Key features for the Project II**

- Base map for **Polar regions** (Arctic & Antarctic)
- **ENCscheme** management procedures (S-11 Part 1 Ed. 3.1.0)
- **Additional layers** for 500 world ports and AIS traffic density
- Set up **maintaining ENCcatalogue** with IHO ENCcatalogue data
- Improve the chart **display functions**
- **User Feedbacks** from HOs, regional coordinators (experimentation phase; late 2018), thanks to EAHC&MBSHC (France), ARHC (Norway), BSHC (Finland)
- And other improvements



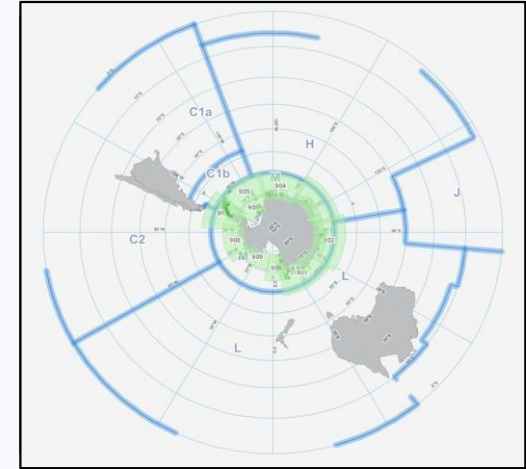
# Improvement (1/9)

## 1. Base map of Polar region

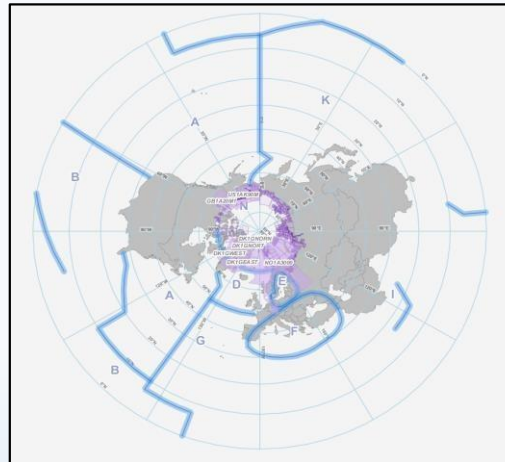
- Both INT Chart and ENC Scheme
- Apply to the management procedures
- Adding regional boundaries (feedback)



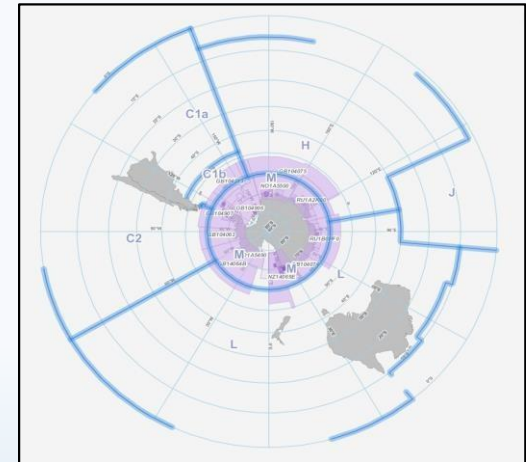
INT Chart Arctic



INT Chart Antarctic



ENC Scheme Arctic



ENC Scheme Antarctic





# Improvement (2/9)

## 2. ENC Scheme Management procedure

- Management workflow (HO → ICCWG → IHO Sec. → DB)
- Search options / Various Base Maps / Database for ENCs

The screenshot displays the IHO Web Manager interface. At the top, it says "IHO Web Manager" and "Supported by KHOA". The main area shows a map of East Asia with various ENC boundaries overlaid in different colors (blue, orange, purple). A search filter is applied, showing "112" results. Below the map is a table of search results for INT Charts.

<input type="checkbox"/>	INT No	PanelId	INT Region	Region_Ver.	INT Title	Producer	Nat No.	S_limit	N_limit	W_limit	E_limit	1stEdYear	1stEdWeek	NewEdYear	NewEdWeek	Status	Scale
<input type="checkbox"/>	5010	MAIN	K	3.0.5 - MAR. 2019	Okinawa Shima t...	JP	W1203	21°50.00'N	26°55.00'N	12°48.00'E	12°48.00'E	1993		2012		Produced	750,000
<input type="checkbox"/>	5011	MAIN	K	3.0.5 - MAR. 2019	Chichi Shima to...	JP	W2130	20°0.00'N	27°15.00'N	14°40.00'E	14°50.00'E	2002				Produced	750,000
<input type="checkbox"/>	5030	MAIN	K	3.0.5 - MAR. 2019	Northern Part o...	CN	10011	35°30.00'N	41°0.00'N	11°0.00'E	12°15.00'E	2006		2010		Produced	1,000,000
<input type="checkbox"/>	5031	MAIN	K	3.0.5 - MAR. 2019	Qingdao, Shang...	CN	10012	30°30.00'N	36°24.00'N	11°15.00'E	12°40.00'E	2006				Produced	1,000,000
<input type="checkbox"/>	5032	MAIN	K	3.0.5 - MAR. 2019	Changjiang Kou ...	CN	13000	24°47.00'N	31°27.00'N	11°33.00'E	12°45.00'E	2006		2009		Produced	750,000
<input type="checkbox"/>	5033	MAIN	K	3.0.5 - MAR. 2019	Taiwan Strait a...	CN	14000	21°45.00'N	26°9.00'N	11°20.00'E	12°5.00'E	2006		2009		Produced	700,000
<input type="checkbox"/>	5034	MAIN	K	3.0.5 - MAR. 2019	Qiongzhou Haikl...	CN	16010	15°45.00'N	20°15.00'N	10°30.00'E	11°48.00'E	2006		2006		Produced	500,000
<input type="checkbox"/>	5035	MAIN	K	3.0.5 - MAR. 2019													

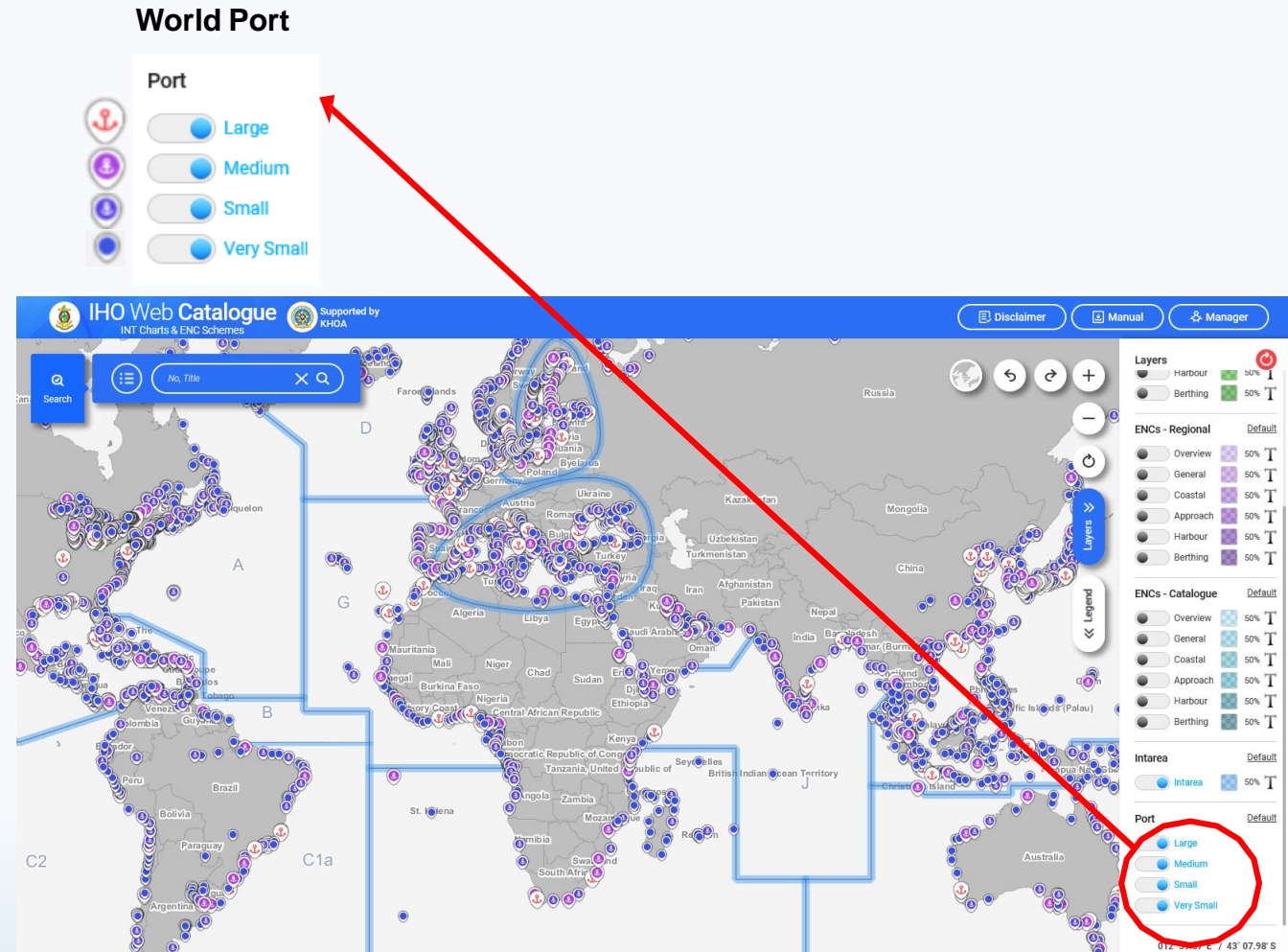


# Improvement (3/9)

## 3. World Port layer

Size Code	Count	Harbor Size
L	159	Large
M	362	Medium
S	992	Small
V	2166	Very Small

Source from NGA



# Improvement (4/9)

## 4. ENC scheme : Gap finder

- Comparison between ENC and INT Chart coverage as reference

Analysis button: Show analysis window

Gap Analysis Menu: Show detailed conditions for gap analysis

Step 1: Select an INT chart and ENC to be analyzed

Step 2: Select INT Region or country

Step 3: Select a scale

Step 4: Set tolerance (+ / -)

1 Search

2 **GAP Analysis** Overlap Analysis

3 Gap analysis provides contextual statistics by analyzing information on areas of the world's maritime regions that do not currently have electronic charts.

4 Step 2 - Select INT Region

5 Step 3 - Select Scale band

6 Step 4 - Tolerance Setting

\* Select a country

Step 2 - Select INT Region

Region Country

Continent J

Nation Select Please

BD x EG x

IHO Web Manager  
INT Charts & ENC Schemes  
Supported by KHOA

**GAP Analysis** Overlap Analysis

**Analysis Summary**

GAP Area **350,000km<sup>2</sup>**

INT Charts Area **1,450,000km<sup>2</sup>**

ENCs Area **1,920,000km<sup>2</sup>**

2516 - Plan B - Saint Helena	125,000	H	1994	Produced
2516 - Plan A - Approaches to Ascension Island	150,000	H	1994	Produced
2590 - Kunene River to Sand Table Hill	300,000	H	1991	Produced
2600 - Sand Table Hill to Cape Cross	300,000	H	1992	Produced
2610 - Cape Cross to Conception Bay	300,000	H	1993	Produced

1 2 3 4 5 6 7 8



# Improvement (5/9)

## 5. ENC scheme : Overlapping checker (inc. with adjacent charting regions)

**Step 1 : Select Overlap Data**  
Source Data : ENCs

**Step 2 : Select Area**  
Region Country  
Region: A, B, C2, C1, D, E, F, G, H, I, J, K, L, M, N, 10M

**Step 3 - Select Scale band**  
Overview, General, Coastal, Approach, Harbour, Berthing

**Step 4 - Tolerance Setting**  
0 m

**Step 5 : Select two regions/countries**  
Region Country  
Region: A, B, C2, C1, D, E, F, G, H, I, J, K, L, M, N, 10M  
Country: J

**Step 6 : Select one region/country**  
Region Country  
Region: A, B, C2, C1, D, E, F, G, H, I, J, K, L, M, N, 10M  
Country: K

**Analysis Summary**  
Overlap Area 20km<sup>2</sup>  
General 91km<sup>2</sup>

KR2F4000 - South Coast of Korea and Approaches  
500,000 2015 Korea (Rep. of) Produced

KR2F3000 - Korea West Coast  
500,000 2014 Korea (Rep. of) Produced

KR2F2000 - Korea East Coast  
500,000 2015 Korea (Rep. of) Produced

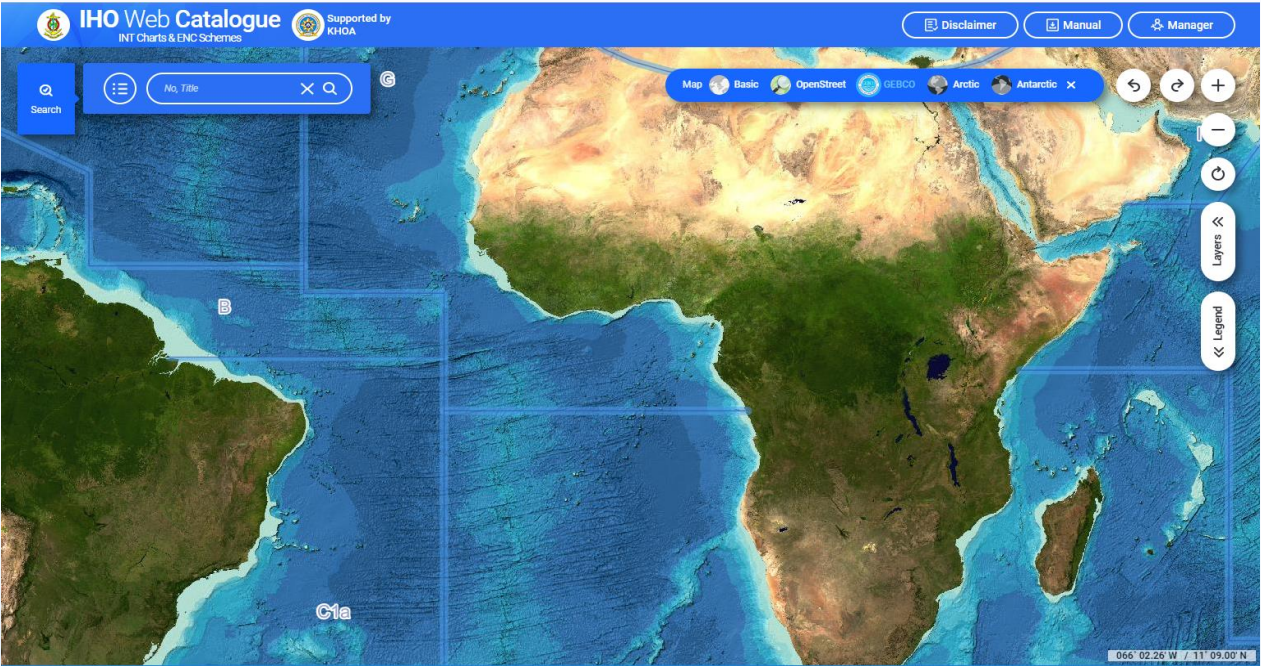




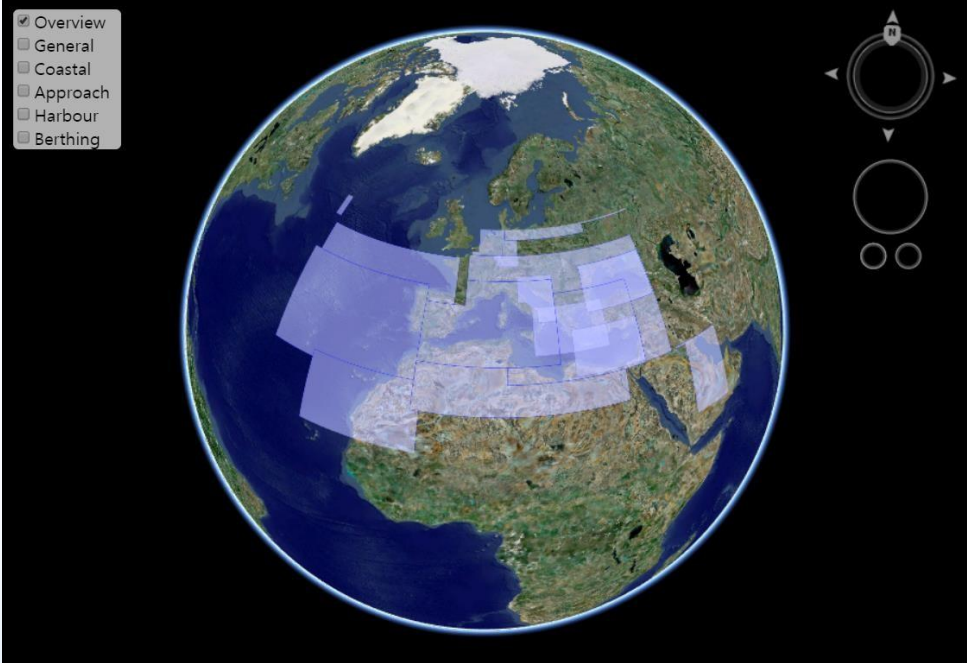
# Improvement (6/9)

## 6. Other improvements

### 1) GEBCOBase Map



### 2) 3D Globe (removed)



# Improvement (7/9)

## 6. Other improvements

### 3) Renewal of INTToGIS interface

#### Web Catalogue

IHO Web Catalogue  
INT Charts & ENC Schemes  
Supported by KHQA  
Disclaimer Manual Manager

Search No. Title

INT Charts ENC Schemes

Chart Scale: All User Define  
Overview General Coastal  
Approach: Harbour Berthing

Region: All  
A B C1 C2 D E  
F G H I J K  
L M N 10M

Status: All Schemed Produced

Producer: All  
Member States Other States Others

Prod. Nation: FR Pub. Year: 1987

Search Reset

#### Web Manager

IHO Web Manager  
INT Charts & ENC Schemes  
Supported by KHQA  
Hello ADCS Disclaimer Manual Logout

Search No. Title

INT Charts ENC Schemes

Chart Scale: All User Define  
Overview General Coastal  
Approach: Harbour Berthing

Region: All  
A B C1 C2 D E  
F G H I J K  
L M N 10M

Status: All Schemed Produced

Producer: All  
Member States Other States Others

Prod. Nation: MA Pub. Year: 2017

Search Reset

DB Version  
INT chart : 3.0.92 - Mar. 2019  
ENCs scheme : 1.2.33 - Jun. 2018  
ENC catalogue :  
068° 38.55' W / 55° 004.7' S



# Improvement (8/9)

## 6. Other improvements

### 4) Additional layers

- AIS traffic density layer (on going)
- IHO meeting & event layer (removed)
- IHO member states layer (removed)
- CATZOC layer (improved with distinguishable colors)

### d. Functions

- Email notification
- S-128 applied
- Update contents ...





# Improvement (8/9)

## 7. User feedbacks

- **Total comments : 63**
- **Completed by April 2019**



Require to Improve the GUI for the remain

## Feedbacks from some Regional coordinators and HOs

### Feedback Experimentation INToGIS II

See <http://119.198.137.98/chartBeta/iho/main.do>

(as of 17 Dec 2018) + *Yves in blue* + *Yong with memo*

#### 1. ARHC – Region N – Edward Hands

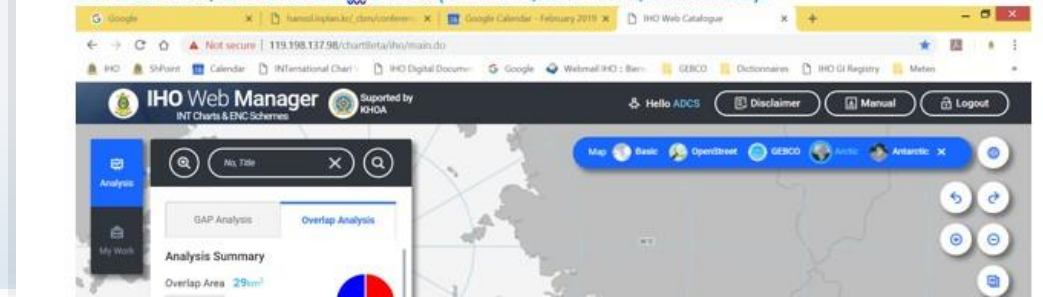
As Norway is the only country producing INT charts in Region N I have focussed on ENCs in my testing.

I have the following comments:

1.1 The inclusion of polar projections is very welcome and functions well. However I note that the INT area boundaries are not displayed when choosing arctic projection. This could be useful. *I agree same for Antarctic projection.*

1.2 I think the overlap analysis will prove to be very useful. Is it such that overlaps between ENCs can be checked at the edit and submission stage so that changes can be amended to eliminate overlaps before ENC's are published? *Yes, I believe so.*

*When the window "please add more search criteria provides more than 200 results" appear in the general user mode, little spelling mistake in the menu. Read: "Ignore", rather than "Ignore".*  
*When doing an Overlap Analysis, here are the results in such conditions (In, Region N, ENC overlap, overview scale, tolerance 5 m) : 3 ENCs (NO1A300, DK1GEAST, DK1GNORT).*





# INT Chart Coverage (General, Coastal, Approach) overlaid by ENC Coverage (General)

The screenshot shows the IHO Web Catalogue interface. The main map displays the Mediterranean region with various chart coverage areas overlaid. The interface includes a search bar, filter panels for Chart Scale, Region, Status, and Producer, and a layers panel on the right. A red box highlights the text "User Mode" in the bottom right corner.

**Chart Scale:** All, User Define, Overview, General, Coastal, Approach, Harbour, Berthing

**Region:** All, A, B, C1, C2, D, E, F, G, H, I, J, K, L, M, N, 10M

**Status:** All, Schemed, Produced

**Producer:** All, Member States, Other States, Others

**Prod. Nation:** [Dropdown], **Pub. Year:** [Dropdown]

**Layers:** Harbour (50%), Berthing (50%), ENC - Regional (Overview, General, Coastal, Approach, Harbour, Berthing), ENC - Catalogue (Overview, General, Coastal, Approach, Harbour, Berthing), Intarea (Intarea), Port (Large, Medium, Small, Very Small)

**Legend:** Legend

**User Mode**

083° 29.77' W / 56° 59.57' S

# ENC Search Results (Harbour) overlaid by ENCCoverage (General) and Ports, GEBCO Base Map

The screenshot displays the IHO Web Catalogue interface. The top navigation bar includes the IHO logo, 'IHO Web Catalogue' text, 'Supported by KHOA', and buttons for 'Disclaimer', 'Manual', and 'Manager'. The search panel on the left shows 'No, Title' in the search bar and a list of ENC results:

Chart ID	Scale	Country	Status
AU2597P0	1,500,000	AU	Produced
GB200716	700,000	GB	Produced
GB200717	700,000	GB	Produced
GB202949	700,000	GB	Produced
FR273490	350,000	FR	Produced

The map area shows a GEBCO base map with ENC coverage overlays. The layers panel on the right is expanded to show 'ENCs - Regional' and 'ENCs - Catalogue' sections. The 'ENCs - Regional' section includes 'Overview', 'General', 'Coastal', 'Approach', 'Harbour', and 'Berthing' layers, all set to 50% opacity. The 'ENCs - Catalogue' section includes 'Overview', 'General', 'Coastal', 'Approach', 'Harbour', and 'Berthing' layers, also set to 50% opacity. The 'Intarea' section includes 'Intarea' set to 50% opacity. The 'Port' section includes 'Large', 'Medium', 'Small', and 'Very Small' layers, all set to 50% opacity. A red box labeled 'User Mode' is overlaid on the bottom right of the map area.



# ENCOverlap Analysis: Port Victoria (Harbour)

**IHO Web Manager**  
INT Charts & ENC Schemes

Supported by KHOA

Hello ADCS | Disclaimer | Manual | Logout

Search | Analysis | My Work

Analysis Summary

Overlap Area **204km<sup>2</sup>**

H 0km<sup>2</sup>

ENC ID	Scale	Region	Overlap
GB500722-12000	12000	GB	H
GB502758-12000	12000	GB	H
GB54232A-4000	4000	GB	H
IN52510B-12000	12000	IN	H
IN52511A-12000	12000	IN	H

CELL NAME : IN52511A  
Region : H

Manager Mode

DB Version  
INT chart : 3.0.92 - Mar. 2019  
ENCs scheme : 1.2.33 - Jun. 2018  
ENC catalogue :  
055° 30.21' E / 04° 29.99' S



# ENCOverlap Analysis: Porto da Beira (Harbour)

The screenshot displays the IHO Web Manager interface for ENCOverlap Analysis. The main map shows the Porto da Beira Harbour area with overlaid ENC cells. The sidebar on the left provides controls for the analysis, including a search bar, a list of selected cells, and a 'Download' button. A detailed information window for cell IN52511A is open, showing its metadata.

**Selected Cells:**

Cell ID	Scale	INT Area	Producer
GB500722-	12000	H	GB
GB502758-	12000	H	GB
GB54232A-	4000	H	GB
IN52510B-	12000	H	IN
IN52511A-	12000	H	IN

**Cell IN52511A Details:**

Field	Value
Cell Name	IN52511A
Cell Title	
INT Area	H
Production Status	Produced
Producer	India
Scale	12,000
First Edition Year	
Edition No	
Edition Date	
Region Version	1.0.5 - JUN. 2018

**Map Information:**

- Map Style: Basic
- Map Title: No Title
- Map Scale: 1:20,000
- Map Coordinates: 034° 18.39' E / 20° 09.56' S

**Manager Mode**



# ENC Coverage Gap Analysis: Region H (coastal) , reference is INT chart coverage, plus NAVAREA limits

http://119.198.137.98/webManager/iho/main.do

IHO Web Manager IHO Charts & ENC Schemes Supported by KHOA

Hello ADCS Disclaimer Manual Logout

Map Basic OpenStreet GEBCO Arctic Antarctic

Layers: Approach 50%, Harbour 50%, Berthing 50%, Intarea 50%, Navarea

Analysis Summary

GAP Area 350,000km<sup>2</sup>

INT Charts Area	ENCs Area
1,450,000km <sup>2</sup>	1,920,000km <sup>2</sup>

2516 - Plan B - Saint Helena  
125,000 H 1994 Produced

2516 - Plan A - Approaches to Ascension Island  
150,000 H 1994 Produced

2590 - Kunene River to Sand Table Hill  
300,000 H 1991 Produced

2600 - Sand Table Hill to Cape Cross  
300,000 H 1992 Produced

2610 - Cape Cross to Conception Bay  
300,000 H 1993 Produced

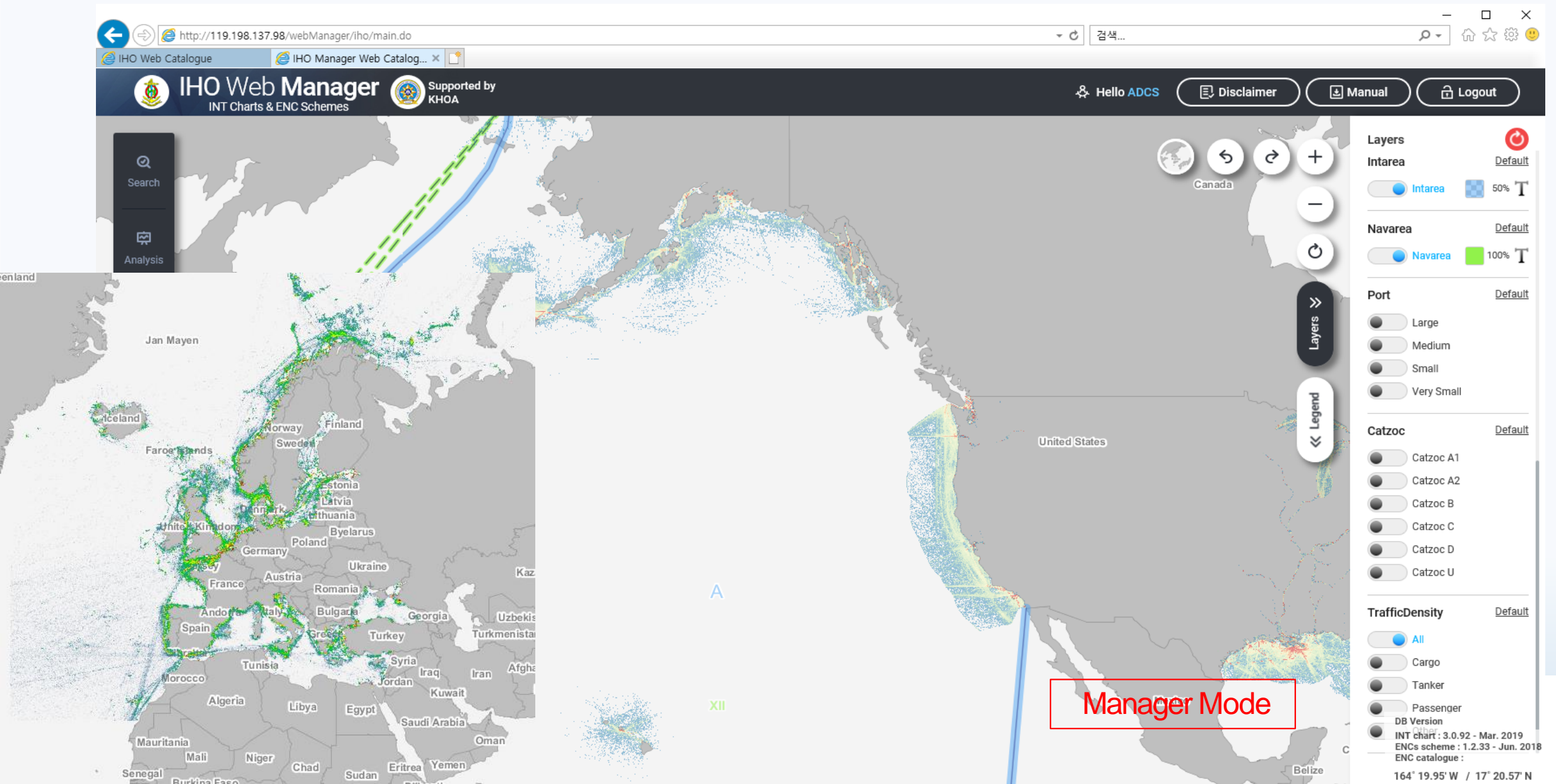
1 2 3 4 5 6 7 8

Manager Mode

DB Version  
INT chart : 3.0.92 - Mar. 2019  
ENCs scheme : 1.2.33 - Jun. 2018  
ENC catalogue :  
077° 48.37' E / 31° 23.89' S



# AIS traffic density: Sample to display density data



# Additional layer : CATZOC with colors

The screenshot displays the IHO Web Manager interface. At the top, the browser address bar shows the URL <http://119.198.137.98/webManager/iho/main.do>. The page header includes the IHO logo, the text "IHO Web Manager INT Charts & ENC Schemes", and a "Supported by KHOA" logo. Navigation links for "Hello ADCS", "Disclaimer", "Manual", and "Logout" are present. The main content area is a world map with various colored overlays representing CATZOC zones. A red box labeled "Manager Mode" is overlaid on the map. The right-hand sidebar contains several control panels: "Layers" with a refresh button and "Intarea" (50% T), "Navarea" (100% T), "Port" (Large, Medium, Small, Very Small), "Catzoc" (Default) with buttons for Catzoc A1, A2, B, C, D, and U, and "TrafficDensity" (Default) with buttons for All, Cargo, Tanker, Passenger, and DB Version. At the bottom right, the coordinates "061° 24.75' W / 22° 03.46' N" are displayed.

## Catzoc

- Catzoc A1
- Catzoc A2
- Catzoc B
- Catzoc C
- Catzoc D
- Catzoc U



# S-128 application

The screenshot displays the IHO Web Catalogue interface. The browser address bar shows the URL `http://119.198.137.98/chartBeta/iho/main.do#`. The page header includes the IHO logo, the text "IHO Web Catalogue" and "Supported by KHOA", and navigation buttons for "Disclaimer", "Manual", and "Manager".

The main content area features a search results panel on the left and a map on the right. The search panel shows results for "INT Charts" (62 items) and "ENCs" (0 items). The results list includes:

- 5351 - Ulsan Man: 20,000 scale, K 1993, KR, Produced
- 5352 - Ulsan Hang: 10,000 scale, K 1993, KR, Produced
- 5354 - Pohang Hang: 15,000 scale, K 1991, KR, Produced
- 5356 - Busan Hang: 10,000 scale, K 1995, KR, Produced
- 5357 - Western part of Busan Hang: 10,000 scale, K 199, KR, Produced

The 5357 entry is selected, and a download menu is open, showing options for XLS, PDF, GML, and SHP. The map on the right shows the Republic of Korea and Japan, with various chart locations marked. The map includes navigation controls (back, forward, zoom in/out) and a "Layers" panel. The coordinates at the bottom right of the map are `121° 08.07' E / 28° 30.42' N`.





# Status of INTToGIS II Project

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- Design and develop DB(Oct. 2017) , Develop the new interface and functions (Nov. 2017)
- Create additional layers (2018), Test operation (late 2018), Project Management Meeting (January 2019)
- Fixing anomalies and implementing improvements suggested by Charting Regions Coordinators (April 2019)
- Demo at WENDWG-9, and at HSSC-11
- Commissioning of INTToGIS II (mid-2019, tbc), workshop back-to-back with NCWG-5 (tbc)
- Pending Questions for the Future: Need to update the current (2017) experimental CATZOC database (every quarter?) AIS data/categories ? Towards INTToGIS III for Management and Coverage of S-100 based products? → *To be discussed*



# Actions to be considered by MBSHC

- Note the report
- Invite MBSHC MS to use the digital formstack for modifying/updating entries (P-5, C-55) and responding to IHO CL (see [IHO CL 20/2019](#))
- Invite the Producer countries to use INTToGIS II in the future
- Invite the Region F Chart Coordinator to consider the possibility of participating in the INTToGIS II workshop (tbc), back-to-back with NCWG-5

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# Thank you

