



International Hydrographic Organization

**2nd MEETING BETWEEN IHO AND
EUROPEAN COMMISSION**

Brussels, 5 April 2013

**Geographic Information System for
IHO Publication C-55**

**Status of Hydrographic Surveying and
Nautical Charting Worldwide**

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IHB

Background

- ★ IHO Convention (as amended):

It shall be the object of the Organization:

(...)

(b) To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services;

- ★ IHO Strategic Plan (2009):

The IHO will strive to achieve global coverage and availability of high quality official hydrographic data, information, products and services necessary for safety of navigation at sea and for non-navigational uses, e.g. by means of the developing spatial data infrastructure (...)



Status of survey coverage: C-55

Firefox Normes et Publications C-55

C-55

- [Executive Summary](#)
- [Introduction](#)
- [Background](#)
- [Database for this Edition](#)
- [Hydrography and Maritime](#)
- [Status of Surveys](#)
- [Status of Charting](#)
- [Status of MSI](#)
- [Recommendations](#)

Main Reports


- * [Hydrographic Surveys](#)
- * [Nautical Charting](#)
- * [Maritime Safety](#)

Information

- * [GMDSS Information](#)
- * [Composite Report \(World-wide\)](#)
- * [Composite for INT](#)
- [Region A](#)
- * [Composite for INT](#)
- [Region B](#)
- * [Composite for INT](#)
- [Region C1](#)
- * [Composite for INT](#)
- [Region C2](#)
- * [Composite for INT](#)
- [Region D](#)
- * [Composite for INT](#)
- [Region E](#)
- * [Composite for INT](#)
- [Region F](#)
- * [Composite for INT](#)
- [Region G](#)
- * [Composite for INT](#)
- [Region H](#)
- * [Composite for INT](#)
- [Region I](#)
- * [Composite for INT](#)
- [Region J](#)
- * [Composite for INT](#)

IHO Publication C-55
Third Edition (2004)
Latest Update 27 September 2011

STATUS OF HYDROGRAPHIC SURVEYING AND NAUTICAL CHARTING WORLDWIDE

[Français](#) 

Executive Summary

The aim of this third edition of IHO Publication No. 55 (C-55) is to present a clear picture of the worldwide coverage of surveys and nautical charts and of the extent of effective organisations for the timely promulgation of navigational safety information. The content of the reports is now held in a live database on the IHO web site from which up to date reports can be extracted at any time. The data base covers the waters of 90% of the coastal states of the world.

Comparing the data in the first and second editions with that presented here, it is clear that significant progress has been made in some areas of great importance to international shipping and to the protection of coastal environments. This has resulted in the main from the firm requirements laid down by the IMO before ships' routeing systems can be approved. There is also encouraging evidence of regional co-operation to provide modern coverage of maritime shipping routes.

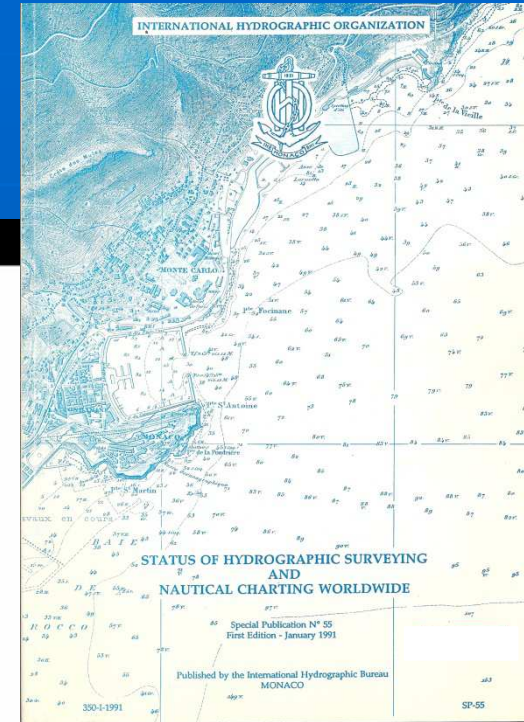
However, in significant areas of the Caribbean Sea, the coastal waters of Africa, the Indian Ocean and adjacent seas, and the Western Pacific Ocean and adjacent seas, there has been little change, and it is here that capacity building efforts must be concentrated.

The IMO and IHO have identified the following key areas of concern arising from the information presented in the C-55 data base:

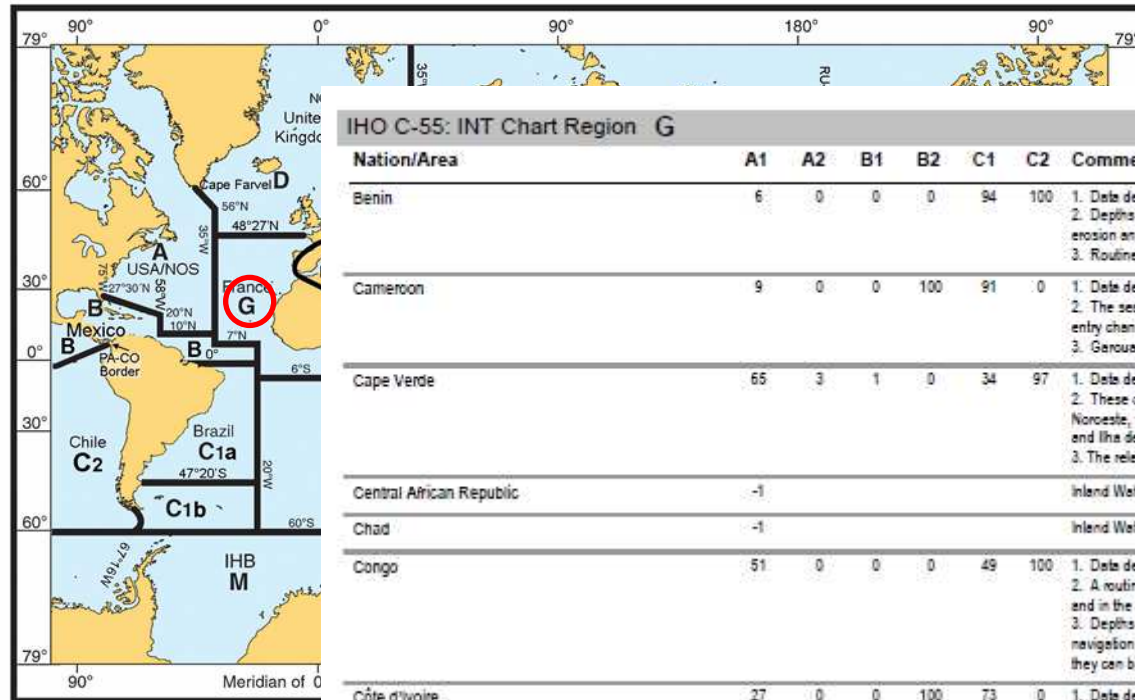
Major Skill Deficiencies:

Many governments have still to put in place an effective organisation for the promulgation of information of importance to safe navigation and the protection of the environment, either as navigational warnings or as inputs to those hydrographic offices with responsibility for charting.

Action is needed to implement the GMDSS in a number of areas, notably in Central America and



Status of survey coverage: C-55



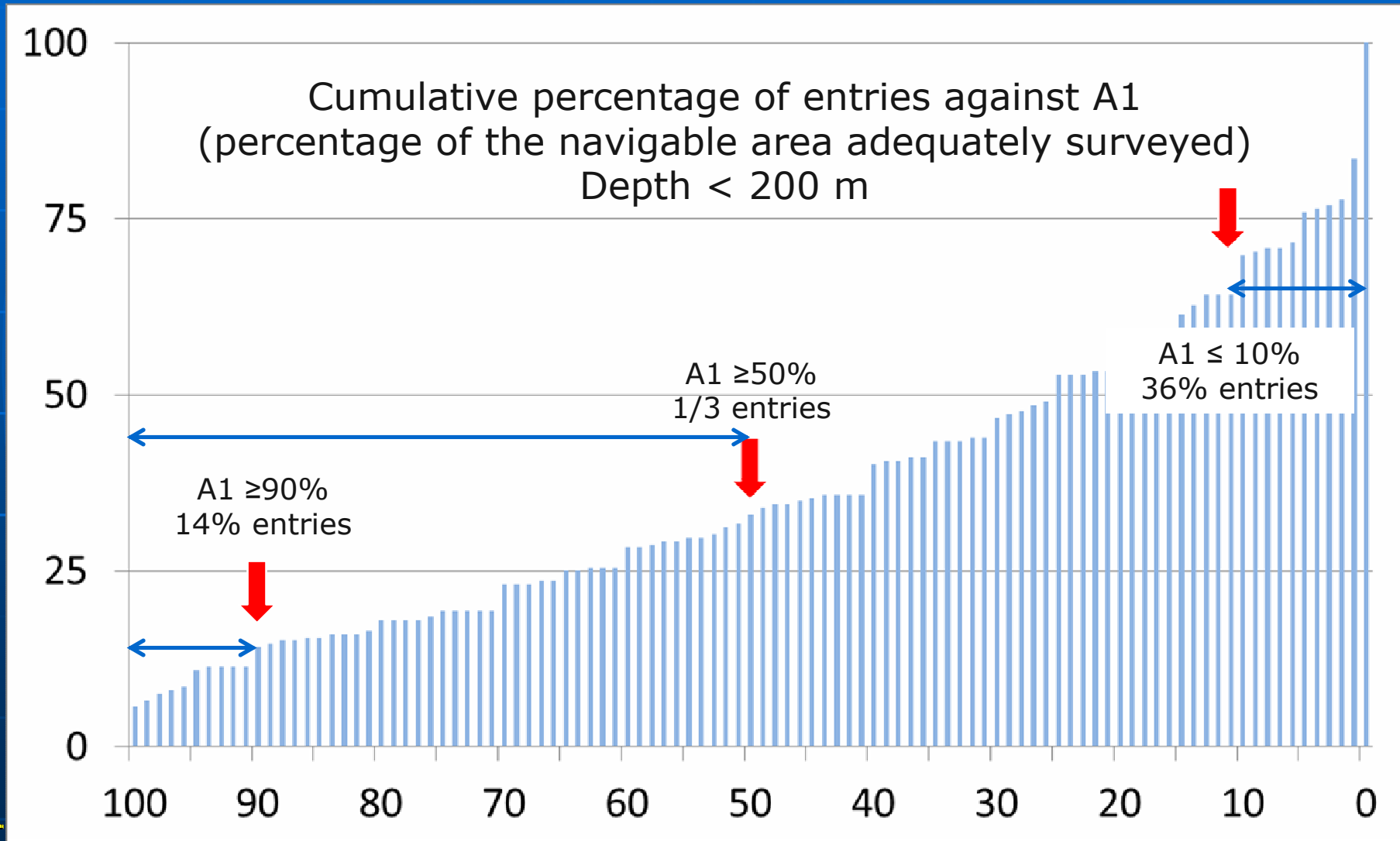
IHO C-55: INT Chart Region G

Nation/Area	A1	A2	B1	B2	C1	C2	Comment
Benin	6	0	0	0	94	100	1. Data derived from EAIHC technical visit. 2. Depths fall away precipitately beyond the narrow continental shelf. The coast is subject to erosion and depths inshore are constantly changing. 3. Routine re-surveys are required for Cotonou.
Cameroon	9	0	0	100	91	0	1. Data derived from EAIHC technical visit. 2. The seabed is unstable in all the rivers and estuaries. Routine re-surveys are conducted in the entry channel and port of Douala. 3. Garoua can be operated from July to September, the navigable season on the River Benue.
Cape Verde	65	3	1	0	34	97	1. Data derived from EAIHC technical visit. 2. These oceanic islands are generally steep with depths that fall away precipitately. Benca do Noroeste, the waters of the Ilha de Boavista, and the banks between that island and Ilha do Maio and Ilha de Santiago require modern survey. 3. The relevant harbours were resurveyed between 2005 and 2010.
Central African Republic	-1						Inland Waterways
Chad	-1						Inland Waterways
Congo	51	0	0	0	49	100	1. Data derived from EAIHC technical visit. 2. A routine resurvey programme is needed in unstable areas in the approaches to Pointe-Noire, and in the approach channel and port after dredging operations. 3. Depths fall away quickly beyond the edge of the shelf and there are no dangers to surface navigation. However survey information is required for the extensive offshore installations so that they can be charted to ensure safe navigation in their vicinity.
Côte d'Ivoire	27	0	0	100	73	0	1. Data derived from EAIHC technical visit. 2. Depths fall away rapidly at the edge of the narrow continental shelf. 3. Routine re-surveys are required following dredging in Port d'Abidjan.
DRC	0	0	100	0	0	100	1. Data derived from EAIHC technical visit. 2. A routine resurvey programme is needed in the mouth of the River Congo and in the river channels to Matadi and Boma. 3. Depths fall away quickly beyond the edge of the shelf on the flanks of the River Congo, and there are no dangers to surface navigation. However survey information is required for the extensive offshore installations so that they can be charted to ensure safe navigation in their vicinity.
Equatorial Guinea	0	0	100	0	0	100	1. Data derived from EAIHC technical visit. 2. Modern surveys will be required following the expansion of Malebo and Lubs. A routine resurvey programme must be established. 3. Survey data is required for offshore installations to ensure safe navigation in their vicinity.
France Atlantique	81	96	0	4	19	0	

IHO C-55: Status
A1/A2 = % adequate
B1/B2 = % requiring
C1/C2 = % which ha



Status of survey coverage: C-55



Status of survey coverage: limitations of C-55

- ✦ No spatial information on location / extent of gaps
- ✦ Adequacy / safety of navigation only
- ↪ IHO Work Programme Task: Develop IHO GIS and web server and web mapping services in support of RHCs, ENC availability, INT chart coordination (Pub S-11), status of surveys, charting and hydrographic capabilities (Pub C-55) and other related activities:
 - IHO Yearbook (Pub P-5 + Appendix 4 Pub M-2)
 - Geographical Names of Undersea Features (Pub B-8)
 - Tide records
 - ...



IHO GIS Development

- ✦ Scope:

- State Database

- Geographical coverage and metadata of ...

- International (INT) charts schemes

- ENCs

- Surveys

- Tidal records



- Undersea Features Names

- User requirements

- ✦ Pilot project: Antarctica GIS



IHO GIS Development

-  : shipping route
-  : INT charts available
-  : INT charts planned



Application:

Charting coverage / shipping routes

INT chart metadata

- English title
- National title
- Chart type
- Product number
- Related chart number
- Producer country
- Producer organization
- Printer country
- Printer organization
- INT region
- Chart limits
- Usage band
- Scale
- Scale latitude
- Date of latest edition
- Horizontal datum
- Sounding datum
- Projection
- Status
- Detail
- Comments

IHO GIS Development

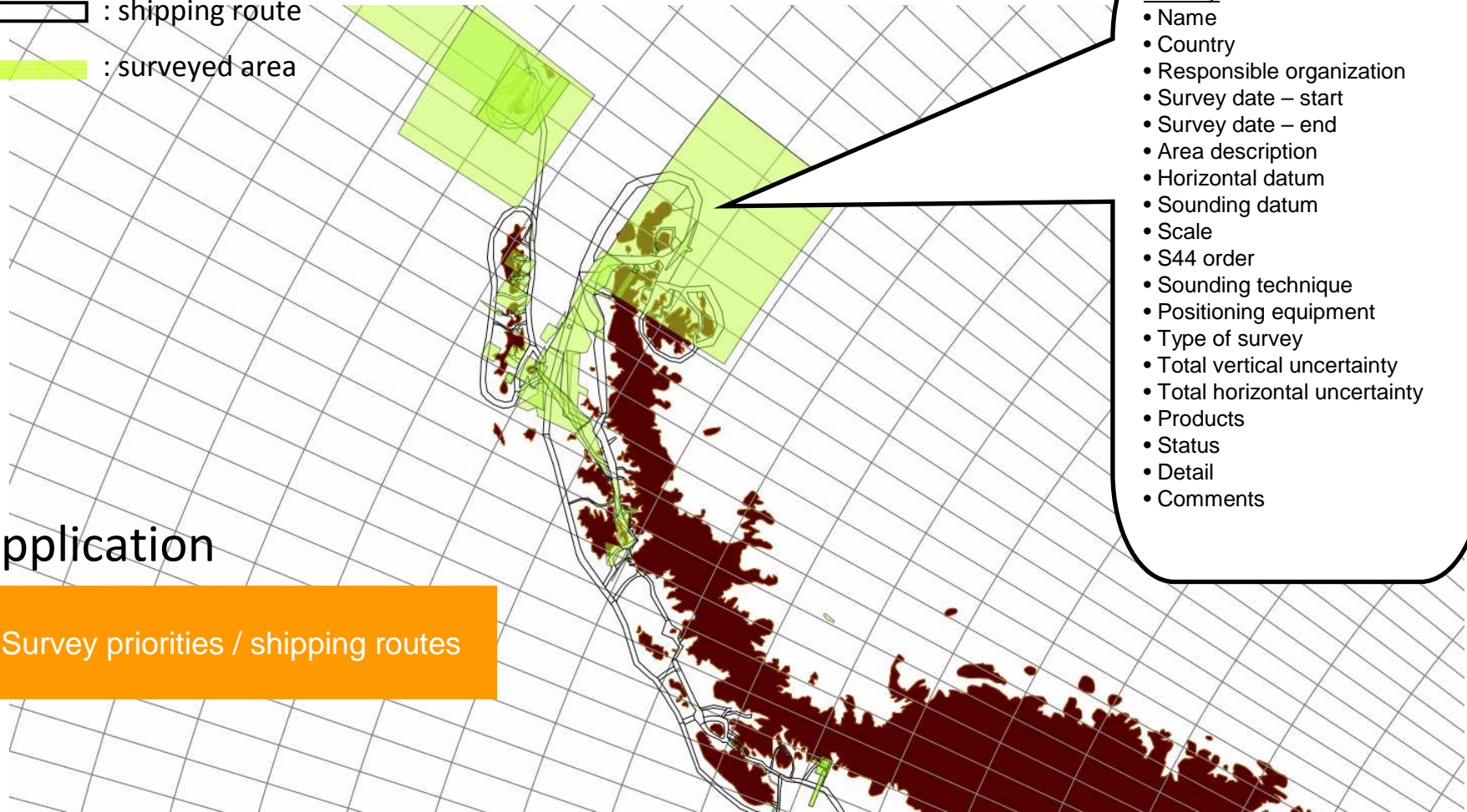
 : shipping route
 : surveyed area

Survey


- Name
- Country
- Responsible organization
- Survey date – start
- Survey date – end
- Area description
- Horizontal datum
- Sounding datum
- Scale
- S44 order
- Sounding technique
- Positioning equipment
- Type of survey
- Total vertical uncertainty
- Total horizontal uncertainty
- Products
- Status
- Detail
- Comments


Application

Survey priorities / shipping routes




IHO GIS Development

 : shipping route

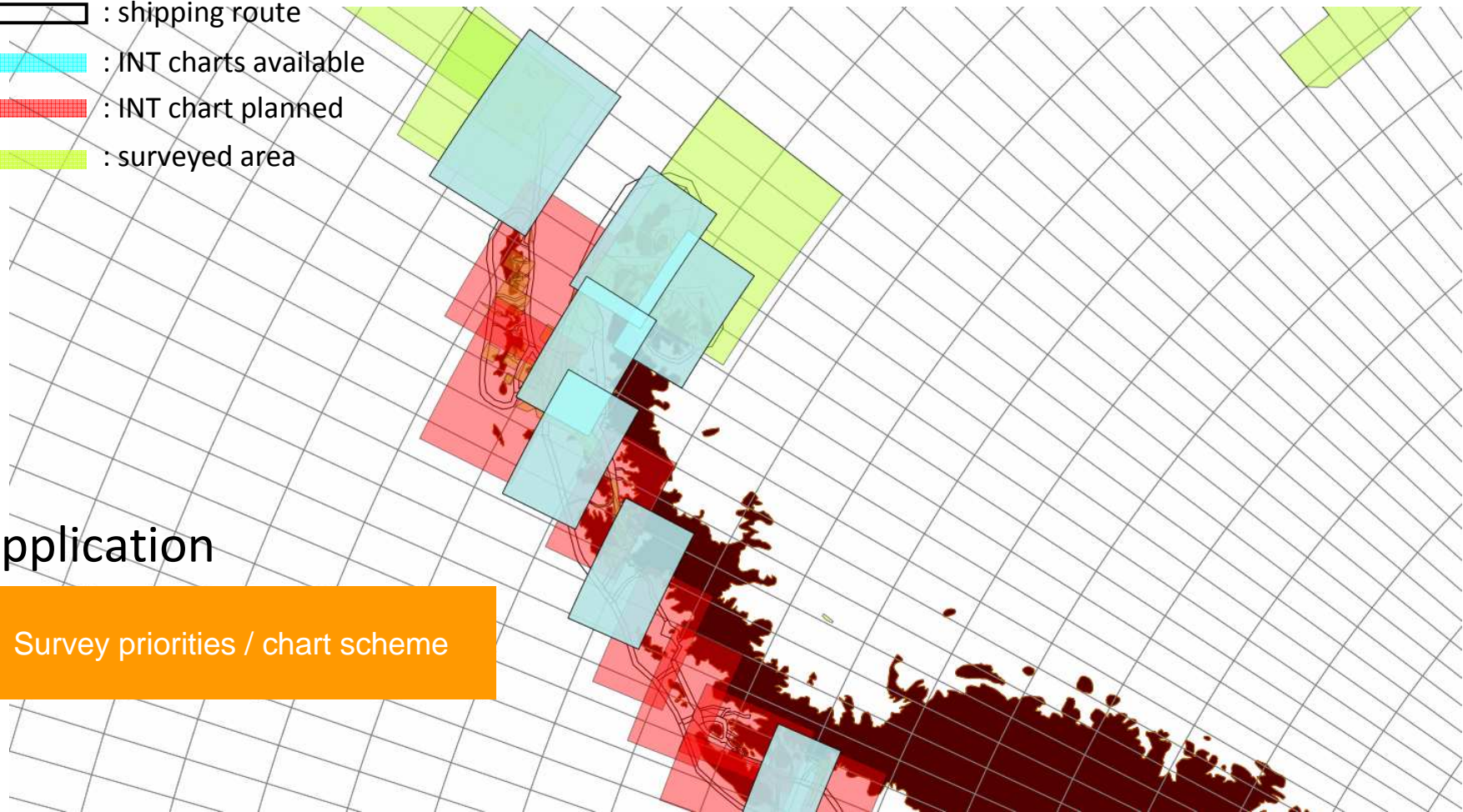
 : INT charts available

 : INT chart planned

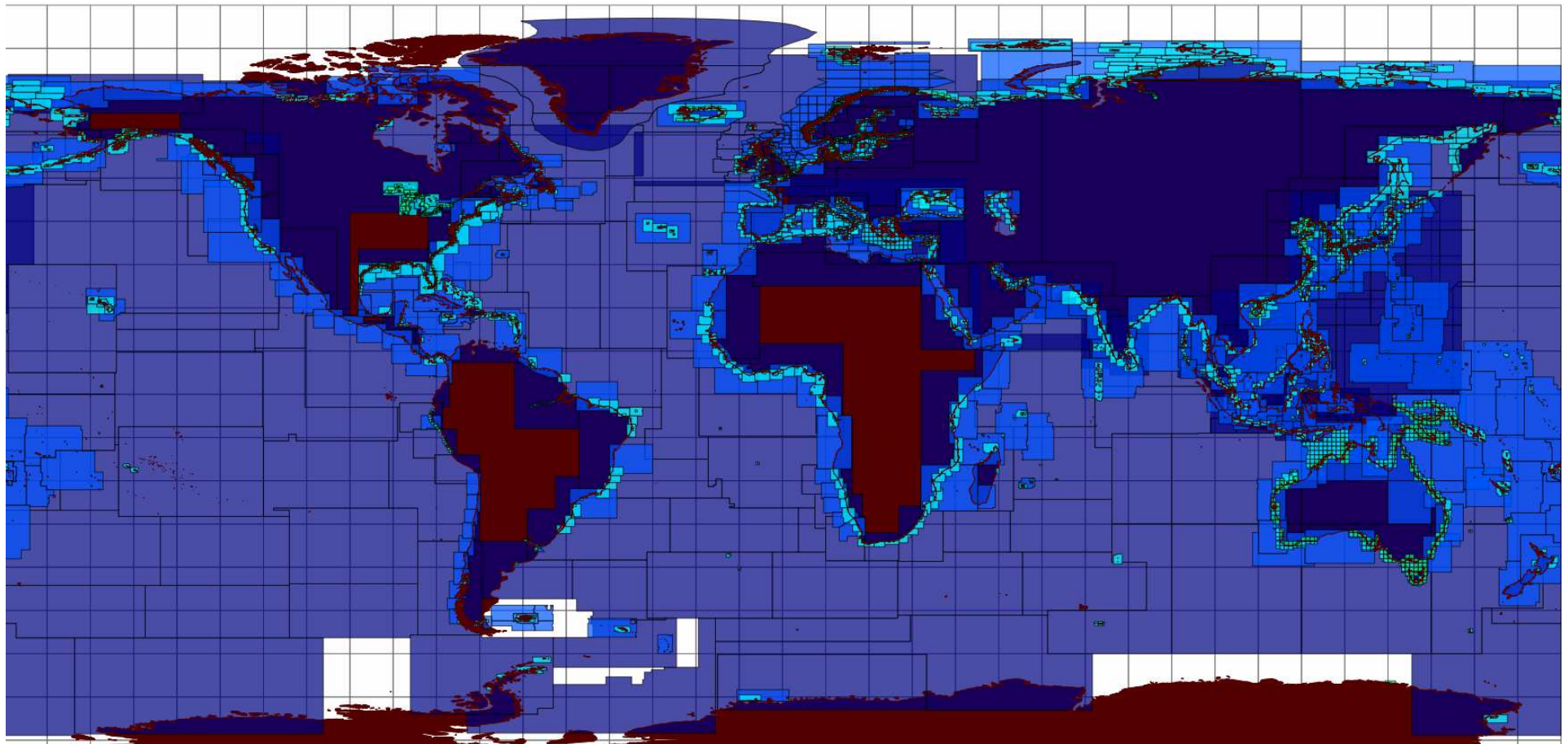
 : surveyed area

Application

Survey priorities / chart scheme

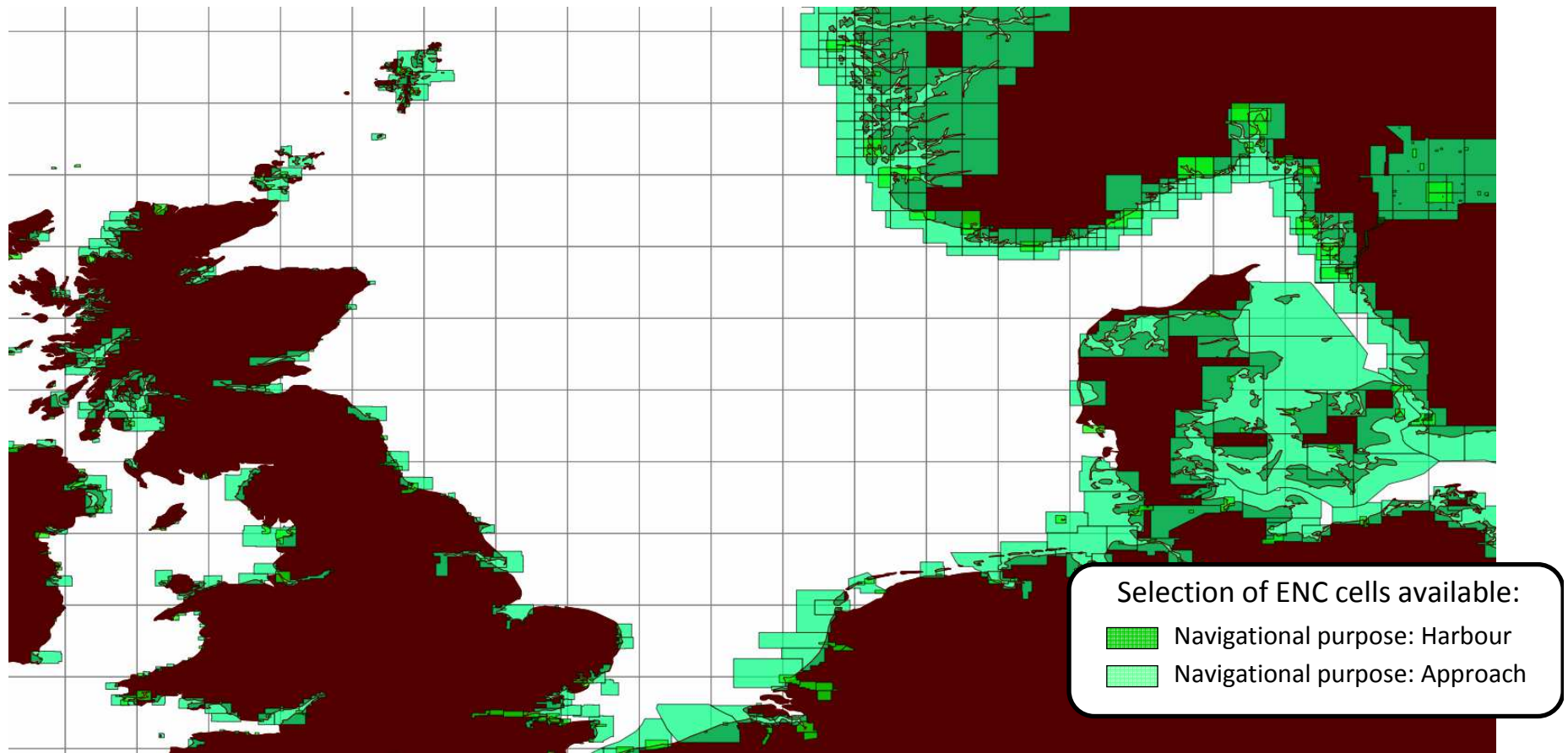


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IHO ENC Worldwide ENC Catalogue

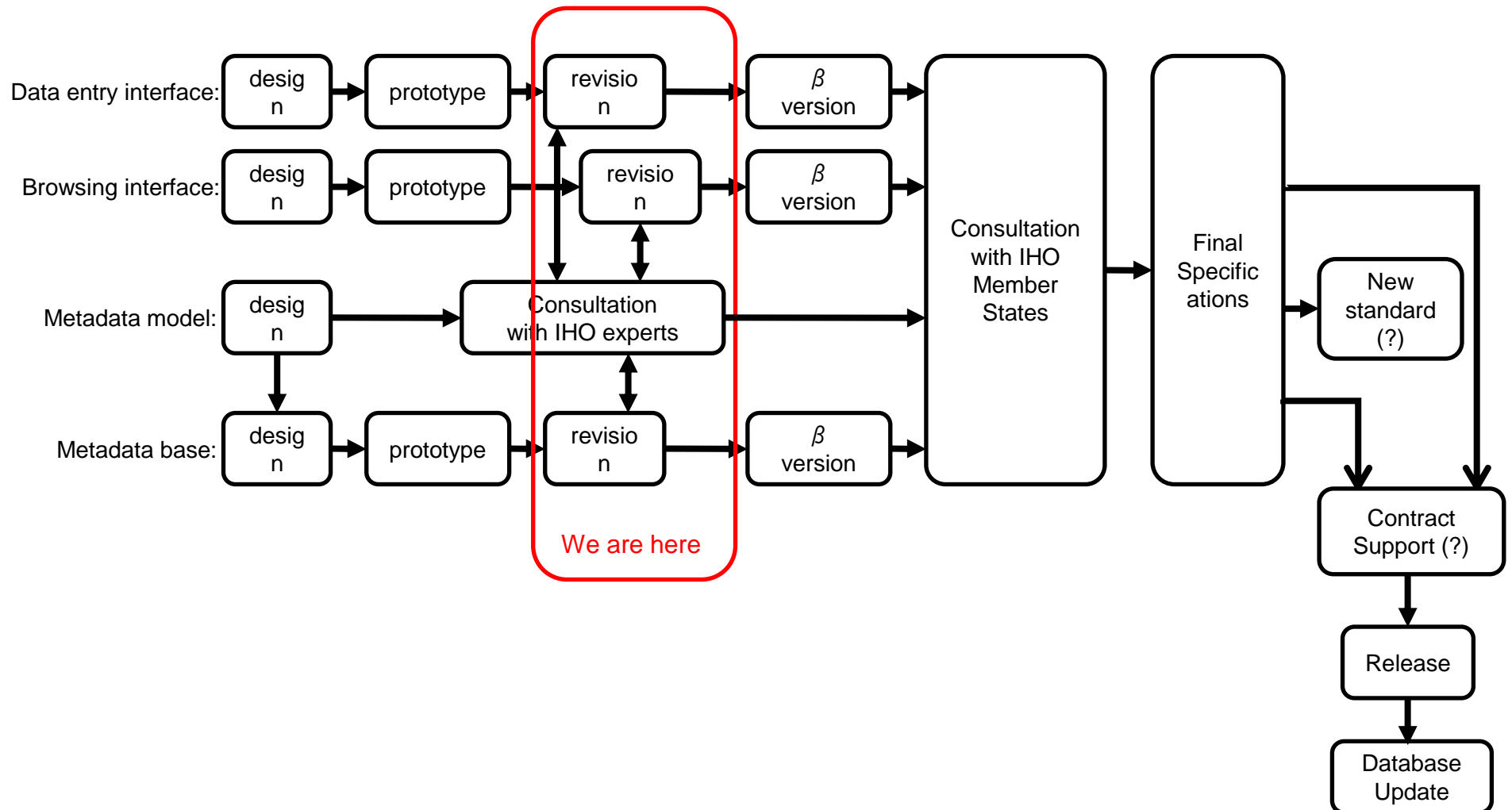
IHO GIS Development



IHO ENC Worldwide ENC Catalogue

IHO GIS Development

Project Road Map



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