



**HCA13-08.5.2A**

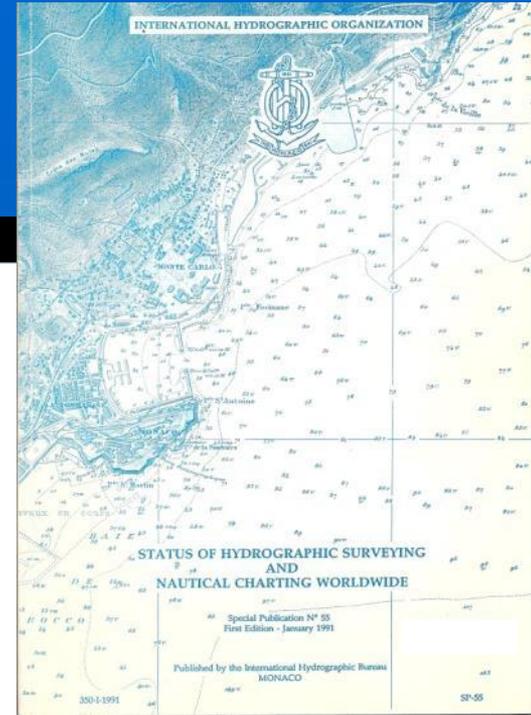
International Hydrographic Organization

**HCA-13**

**Progress Report on  
Geographic Information System to Support  
IHO Publication C-55**

**IHB**

# 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](#)

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[Region C1](#)  
\* [Composite for INT](#)

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[Region D](#)  
\* [Composite for INT](#)

[Region E](#)  
\* [Composite for INT](#)

[Region F](#)  
\* [Composite for INT](#)

[Region G](#)  
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[Region H](#)  
\* [Composite for INT](#)

[Region I](#)  
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[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' routing 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:

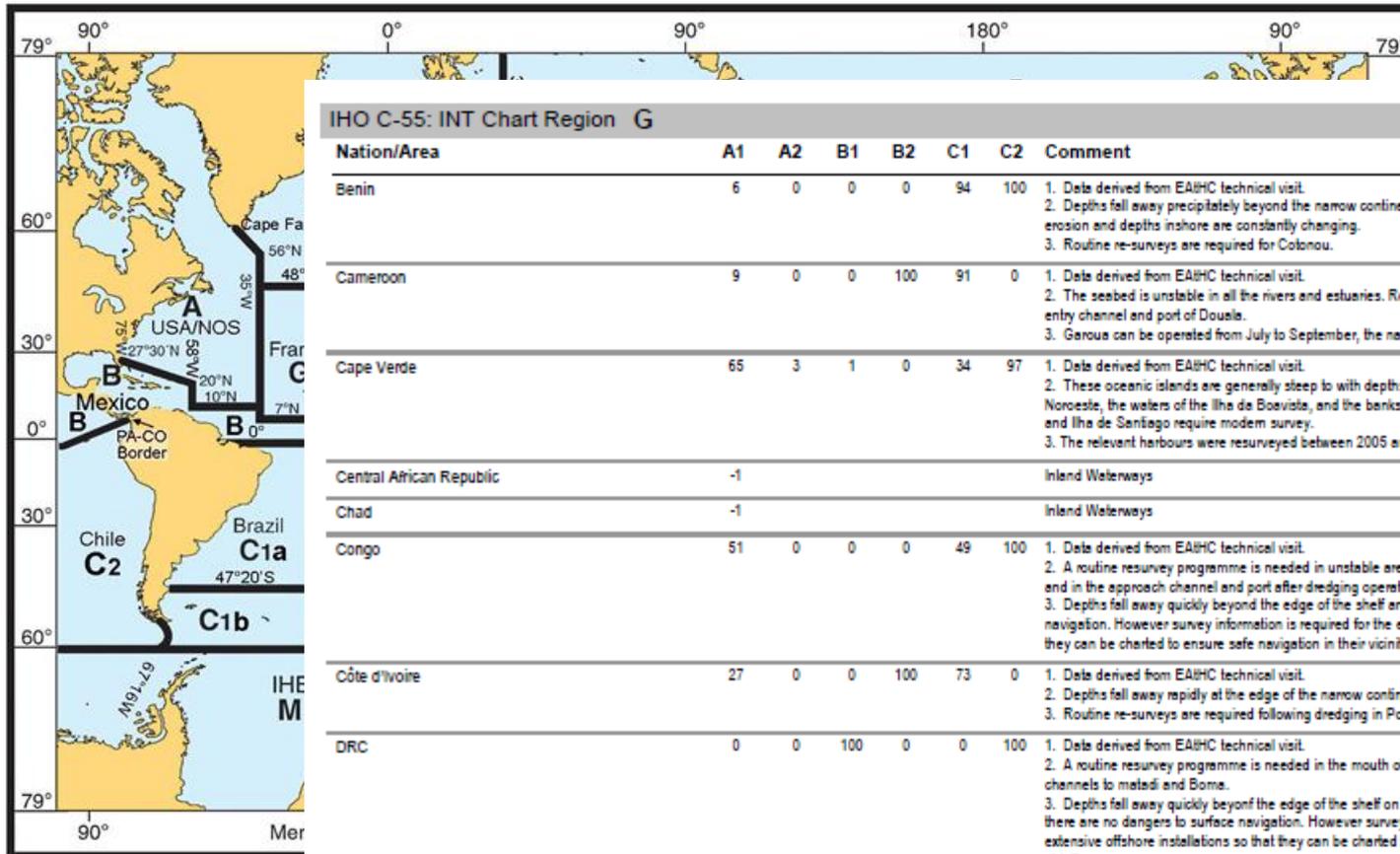
**Major Skill Deficiencies:**

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	<ol style="list-style-type: none"> <li>1. Data derived from EAIHC technical visit.</li> <li>2. Depths fall away precipitately beyond the narrow continental shelf. The coast is subject to erosion and depths inshore are constantly changing.</li> <li>3. Routine re-surveys are required for Colonou.</li> </ol>
Cameroon	9	0	0	100	91	0	<ol style="list-style-type: none"> <li>1. Data derived from EAIHC technical visit.</li> <li>2. The seabed is unstable in all the rivers and estuaries. Routine re-surveys are conducted in the entry channel and port of Douala.</li> <li>3. Garoua can be operated from July to September, the navigable season on the River Benue.</li> </ol>
Cape Verde	65	3	1	0	34	97	<ol style="list-style-type: none"> <li>1. Data derived from EAIHC technical visit.</li> <li>2. These oceanic islands are generally steep with depths that fall away precipitately. Banco do Noroeste, the waters of the Ilha da Boavista, and the banks between that island and Ilha do Maio and Ilha de Santiago require modern survey.</li> <li>3. The relevant harbours were resurveyed between 2005 and 2010.</li> </ol>
Central African Republic	-1						Inland Waterways
Chad	-1						Inland Waterways
Congo	51	0	0	0	49	100	<ol style="list-style-type: none"> <li>1. Data derived from EAIHC technical visit.</li> <li>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.</li> <li>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.</li> </ol>
Côte d'Ivoire	27	0	0	100	73	0	<ol style="list-style-type: none"> <li>1. Data derived from EAIHC technical visit.</li> <li>2. Depths fall away rapidly at the edge of the narrow continental shelf.</li> <li>3. Routine re-surveys are required following dredging in Port d'Abidjen.</li> </ol>
DRC	0	0	100	0	0	100	<ol style="list-style-type: none"> <li>1. Data derived from EAIHC technical visit.</li> <li>2. A routine resurvey programme is needed in the mouth of the River Congo and in the river channels to Matadi and Boma.</li> <li>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.</li> </ol>
Equatorial Guinea	0	0	100	0	0	100	<ol style="list-style-type: none"> <li>1. Data derived from EAIHC technical visit.</li> <li>2. Modern surveys will be required following the expansion of Malebo and Luba. A routine resurvey programme must be established.</li> <li>3. Survey data is required for offshore installations to ensure safe navigation in their vicinity.</li> </ol>
France Atlantique	81	96	0	4	19	0	



# Limitations of C-55

- ✦ No spatial information on location / extent of gaps
- ✦ Based on 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:

- Country and Organisation Database (to support Year Book, etc)
- GIS (to support C-55, RHC's, etc)
  - Geographical coverage and metadata for :
    - International (INT) charts schemes
    - ENC's
    - Surveys
    - Tidal records
    - Undersea Features Names

## ✦ Pilot project underway: Antarctica GIS



# Antarctica GIS Development



IHO/HCA Antarctic GIS



Antarctic

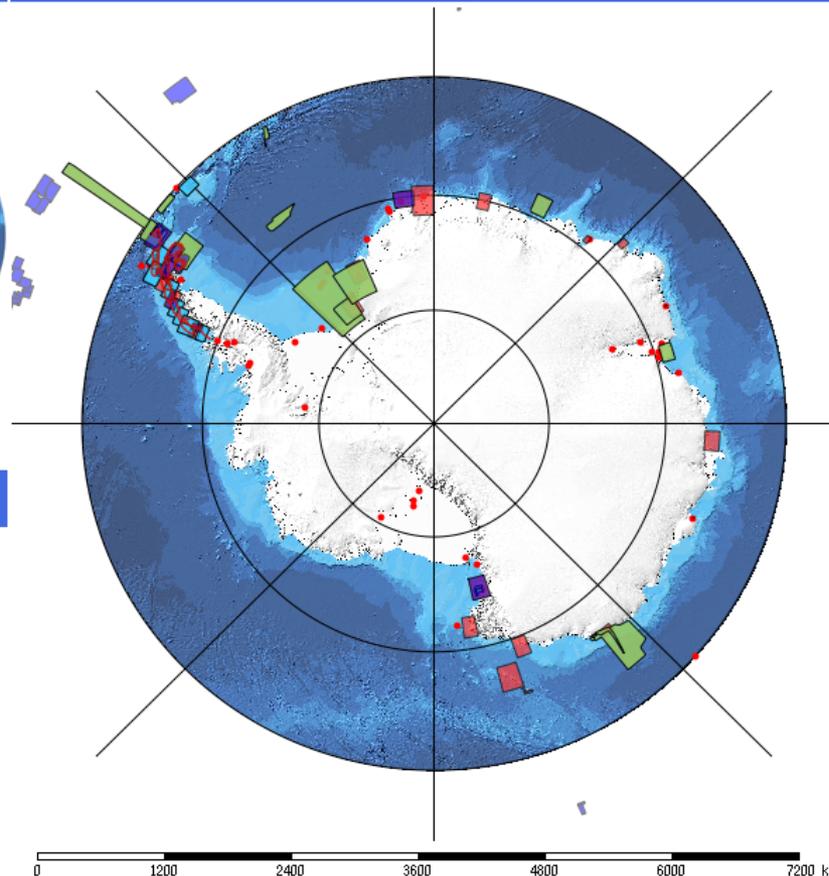


Mercator

Key map

Main Image

Select features to display



Navigation

- Back to original size
  - Zoom in
  - Zoom out
  - Centering
  - Display attribute
- scale 1 : 37,858,393

- Undersea feature name (multi point)
- Undersea feature name (point)
- / Undersea feature name (multi line)
- / Undersea feature name (line)
- Undersea feature name (polygon)
- / Maritime shipping route
- ENC published NP1
- ENC published NP2
- ENC published NP3
- ENC published NP4
- ENC published NP5
- ENC published NP6
- ENC schemed NP1
- ENC schemed NP2
- ENC schemed NP3
- Survey (polygon)
- Survey (line)
- INT published NP1
- INT published NP2
- INT published NP3
- INT published NP4
- INT published NP5
- INT schemed NP1
- INT schemed NP2
- INT schemed NP3
- Scientific stations
- Tidal records
- Graticule
- IBCSO bathymetry

Refresh screen



# IHO Antarctic GIS Development



IHO/HCA Antarctic GIS



Antarctic

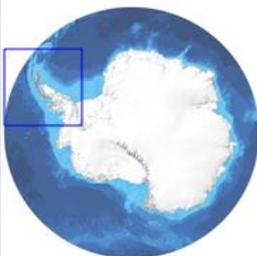


Mercator

 : shipping route

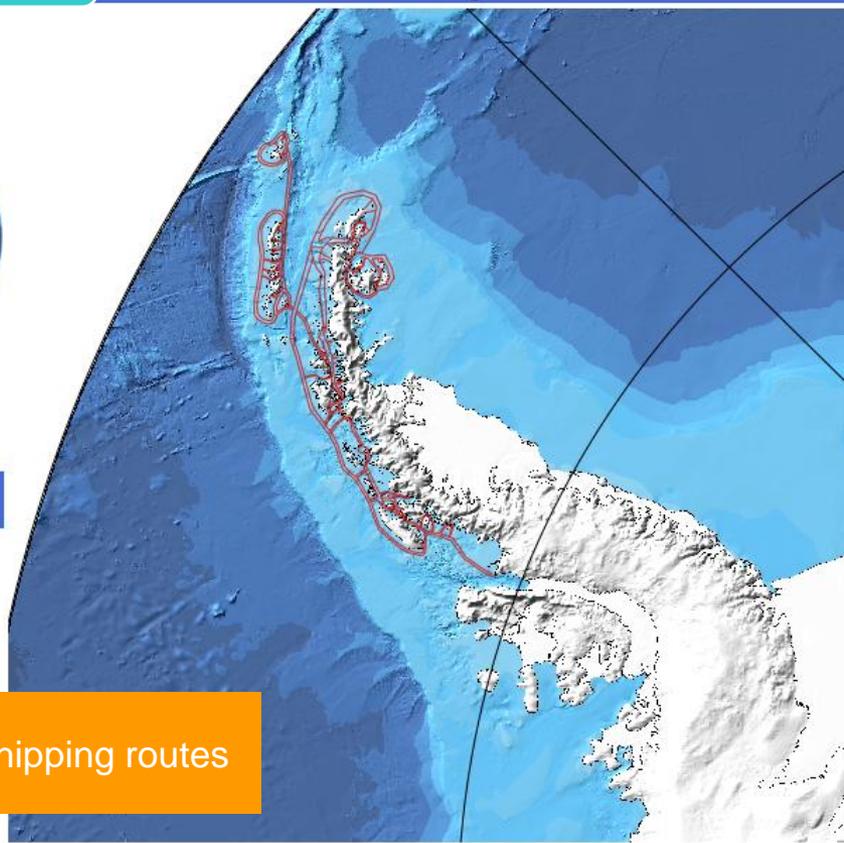
Main Image

Select features to display



Navigation

⌂ Back to original size  
 ⌂ Zoom in  
 ⌂ Zoom out



- Undersea feature name (multi point)
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- ENC published NP 4
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Refresh screen

Application:

Charting coverage / shipping routes



# IHO Antarctic GIS Development



IHO/HCA Antarctic GIS



Antarctic



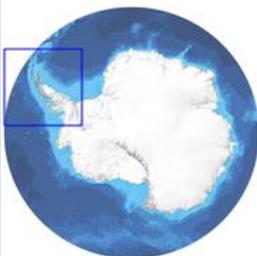
Mercator

 : shipping route

 : INT charts available

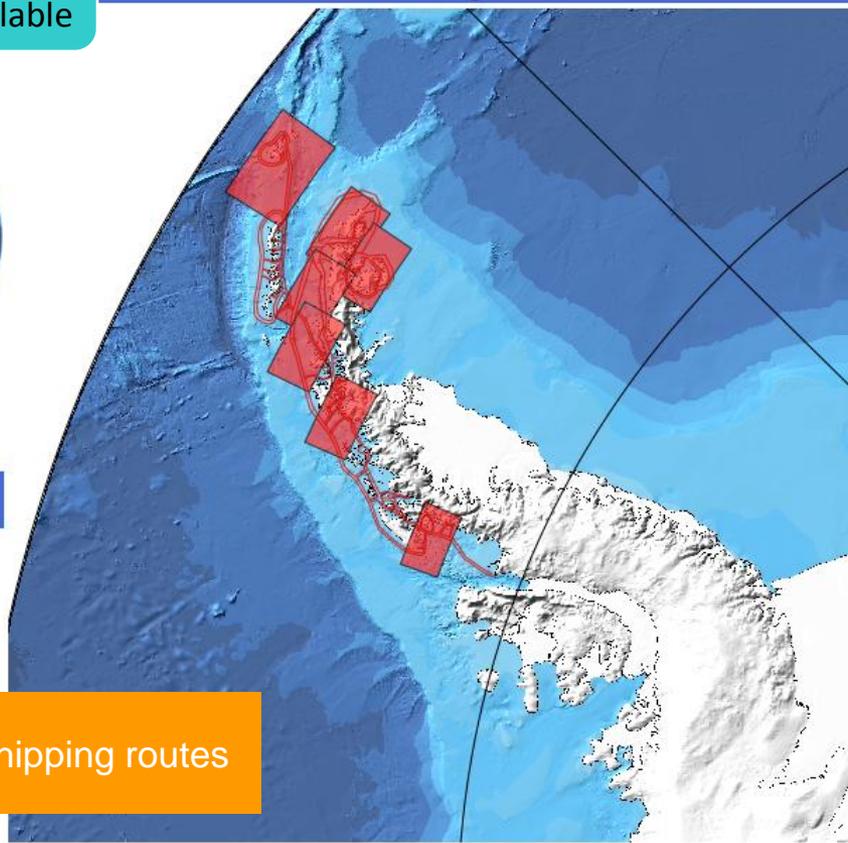
Main Image

Select features to display



Navigation

⌂ Back to original size  
 ⌂ Zoom in  
 ⌂ Zoom out



- Undersea feature name (multi point)
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Refresh screen

0 310 620 930 1240 1550 1860 km

Application:

Charting coverage / shipping routes



# IHO Antarctic GIS Development



IHO/HCA Antarctic GIS



Antarctic

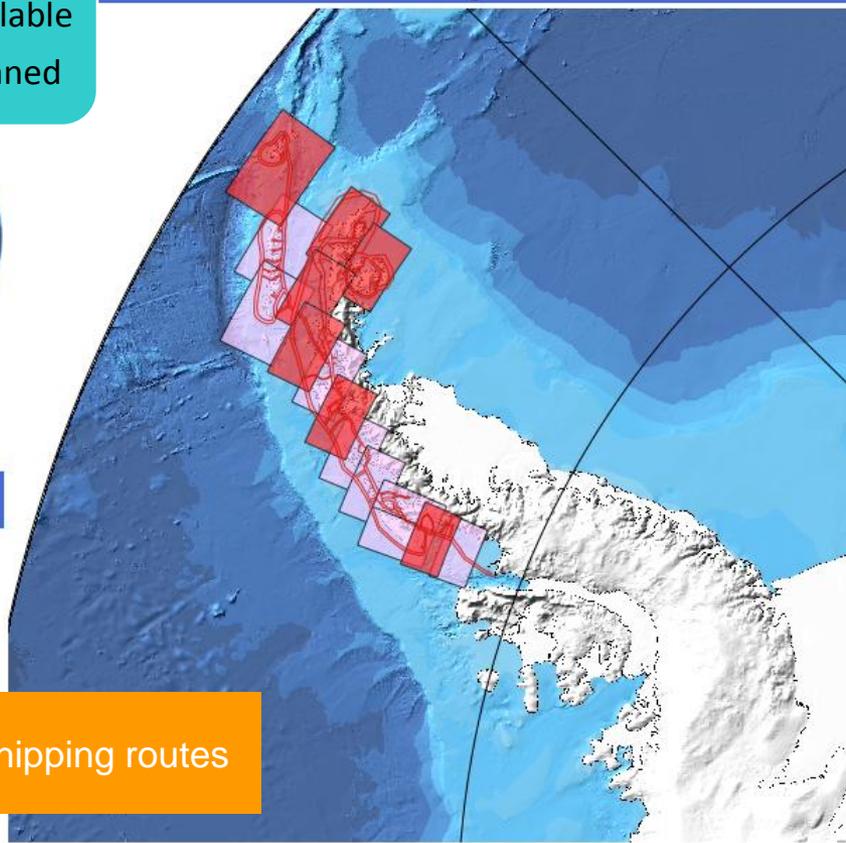


Mercator

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

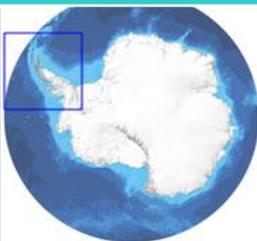
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Refresh screen



Navigation

- ⌂ Back to original size
- ⌂ Zoom in
- ⌂ Zoom out

0 310 620 930 1240 1550 1860 km

Application:

Charting coverage / shipping routes



# IHO Antarctic GIS Development



IHO/HCA Antarctic GIS



Antarctic



Mercator

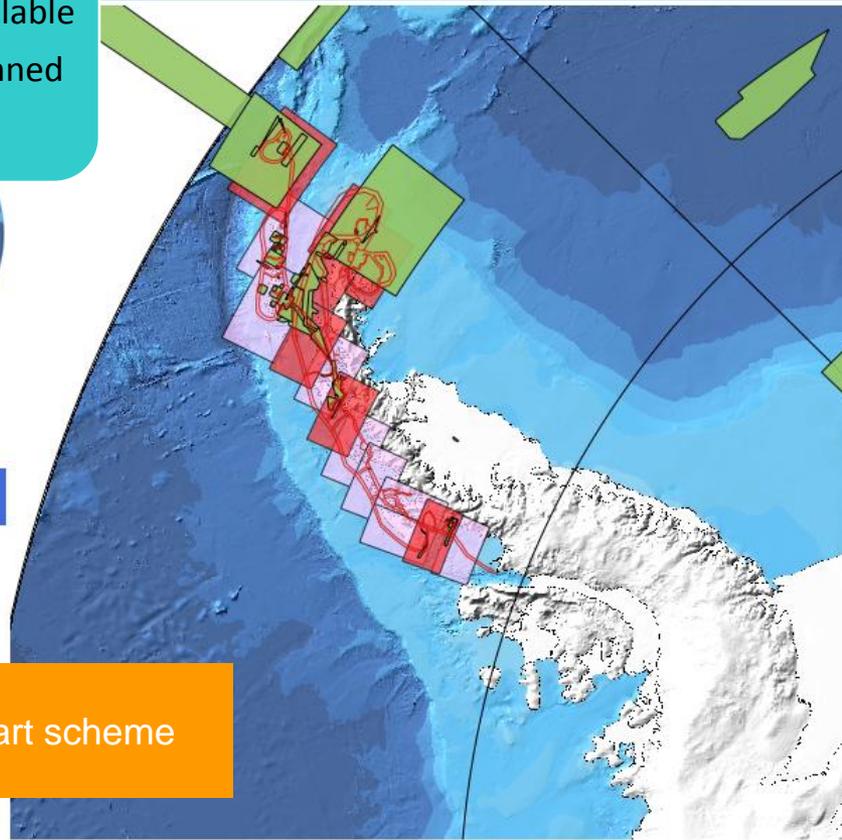
-  : shipping route
-  : INT charts available
-  : INT charts planned
-  : Survey area

Main Image

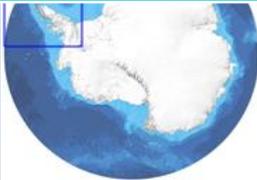
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Refresh screen



0 310 620 930 1240 1550 1860 km



Navigation

Back to original size

Application:

Survey priorities / chart scheme



# IHO Antarctic GIS Development



IHO/HCA Antarctic GIS



Antarctic



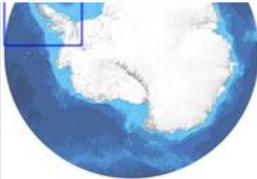
Mercator

Key map

Main Image

Select features to display

- : Tidal records
- : Survey area

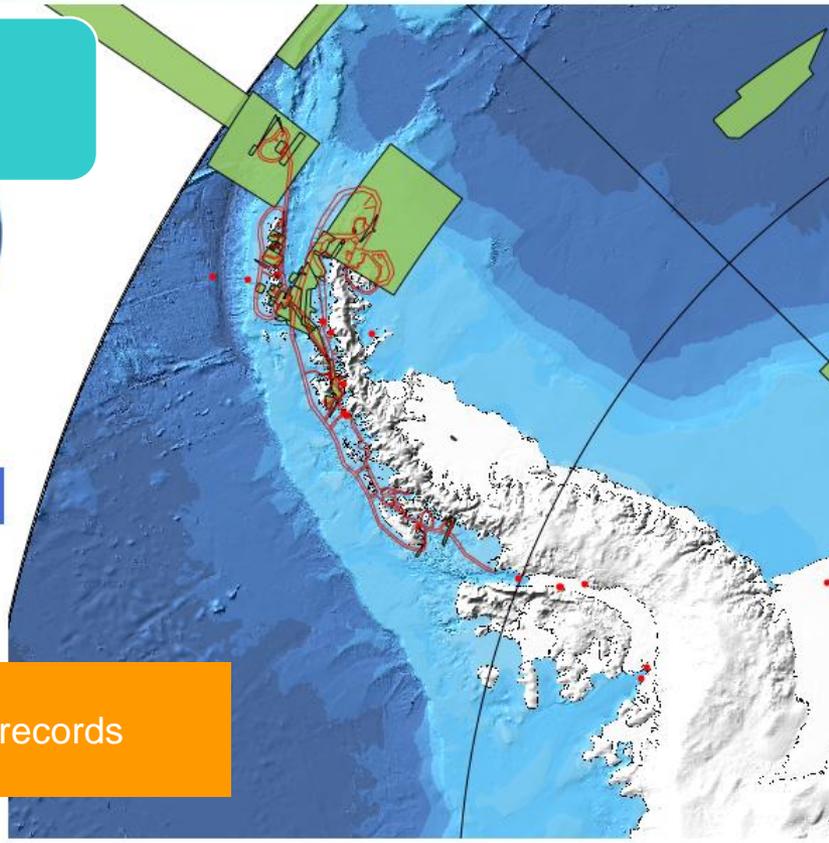


Navigation

Back to original size

Application:

Survey data/ tidal records



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# IHO Antarctic GIS Development



IHO/HCA Antarctic GIS



Antarctic



Mercator

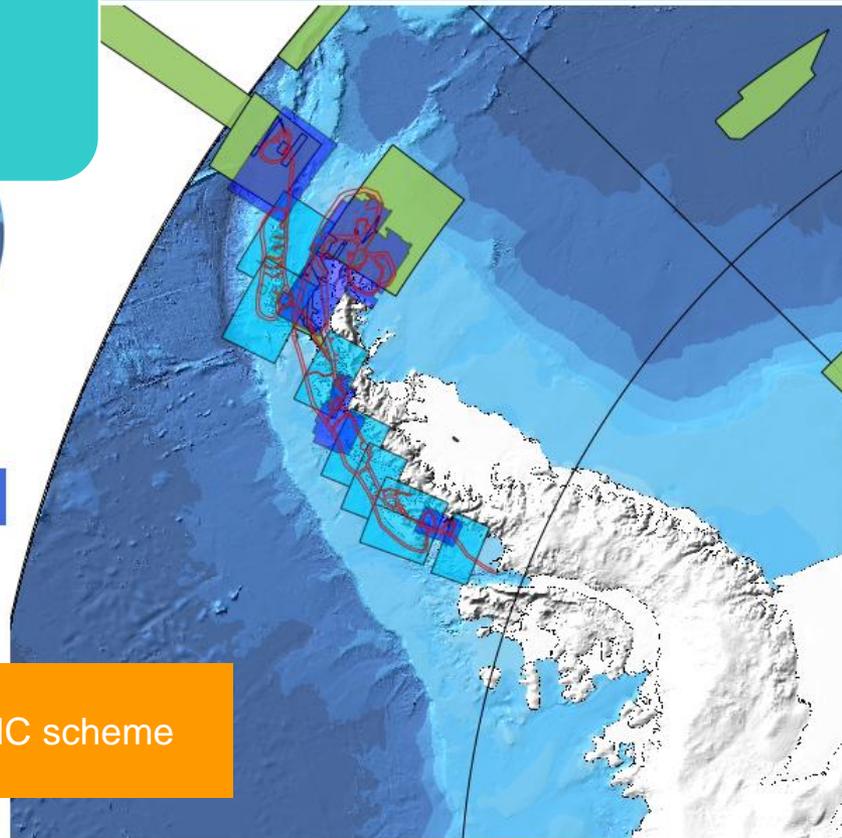
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-  : ENC available
-  : ENC planned
-  : Survey area

Main Image

Select features to display

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Refresh screen



0 310 620 930 1240 1550 1860 km



Navigation

Back to original size

Application:

Survey priorities / ENC scheme



# IHO Antarctic GIS Development



IHO/HCA Antarctic GIS



Antarctic

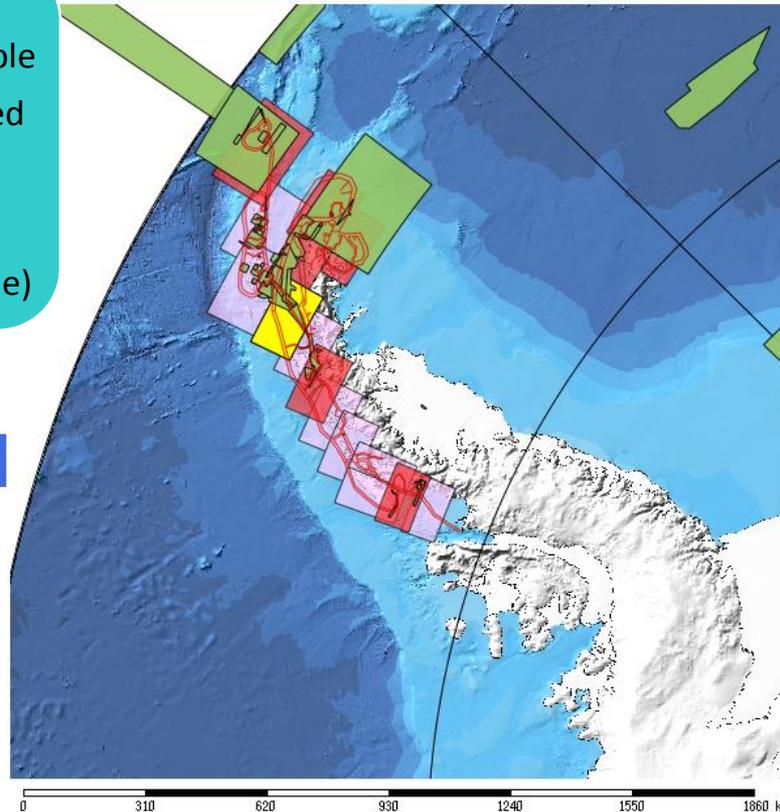


Mercator

Main Image

Select features to display

- : shipping route
- : INT charts available
- : INT charts planned
- : Survey area
- : Indicated feature (INT chart available)



- Undersea feature name (multi point)
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- Refresh screen

Navigation

- Back to original size
  - Zoom in
  - Zoom out
  - Centering
  - Display attribute
- scale 1 : 9,464,598

Application

Metadata

Attribute of indicated feature

Attribute of indicated feature												
INT chart												
INT No.	producer	national No.	title	Cart limits				scale		date	format	printer
				south	north	west	east	1:	scale Lat.			
9156	AR	H-724	Archipelago de Palmer, de Isla Trinidad a Isla Amberes	64°18.05'S	63°20.00'S	63°49.50'W	60°07.00'W	150,000	66.5	10/		



# Live Demonstration

- <http://hca.iho.int/>

