



5th WENDWG Meeting

3-5 March 2015 (Singapore)

Update on the IHO ENC Catalogue

IHB (WENDWG Secretary)

Content

- ✦ Background, Objective
- ✦ System description
- ✦ Examples
- ✦ Way ahead



Objective

IMO NCSR 1/WP.8 " ECDIS – Guidance for Good Practice"

“The IHO provides an **online chart catalogue** that details the coverage of ENC's 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.*“



IHO Strategic Performance Indicator No.2

“Growth in ENC coverage worldwide, as reported in the IHO on-line catalogue, relative to the existing gap in adequate coverage (as defined by IMO/NAV) from the benchmark 01 Aug. 2008”

ENC Availability:

www.iho.int > ENCs & ECDIS > ENC Availability



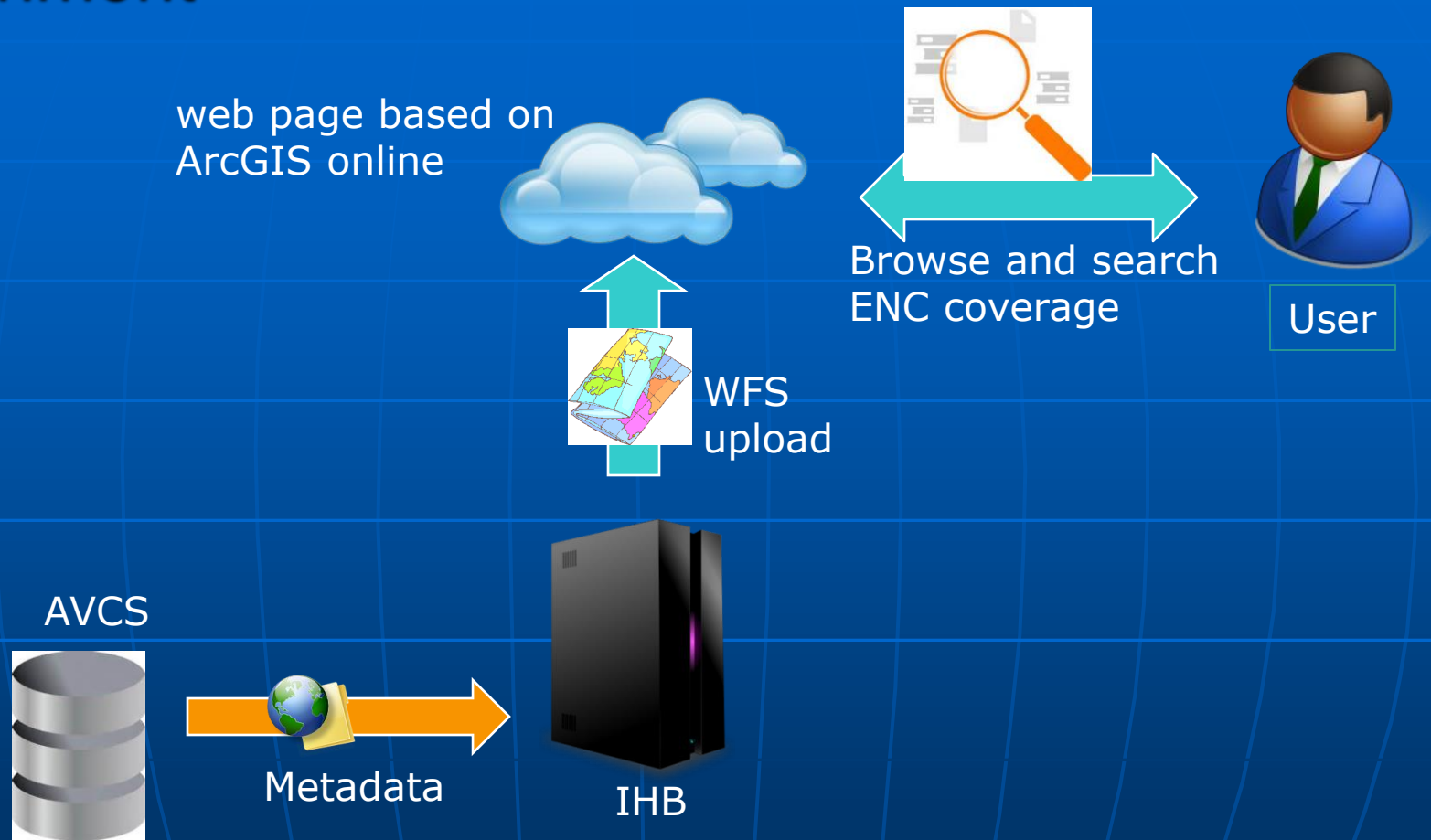
Today...

- ✦ The metadata for the ENC catalogue are provided by UKHO as the AVCS metadata set (most comprehensive coverage information available at the IHB)
- ✦ Monthly updated
- ✦ 1 layer and 1 shape file for 1 usage band (total of 6)

- ✦ Basic but sufficient? Is it used by IHO MS? Any other requirement?



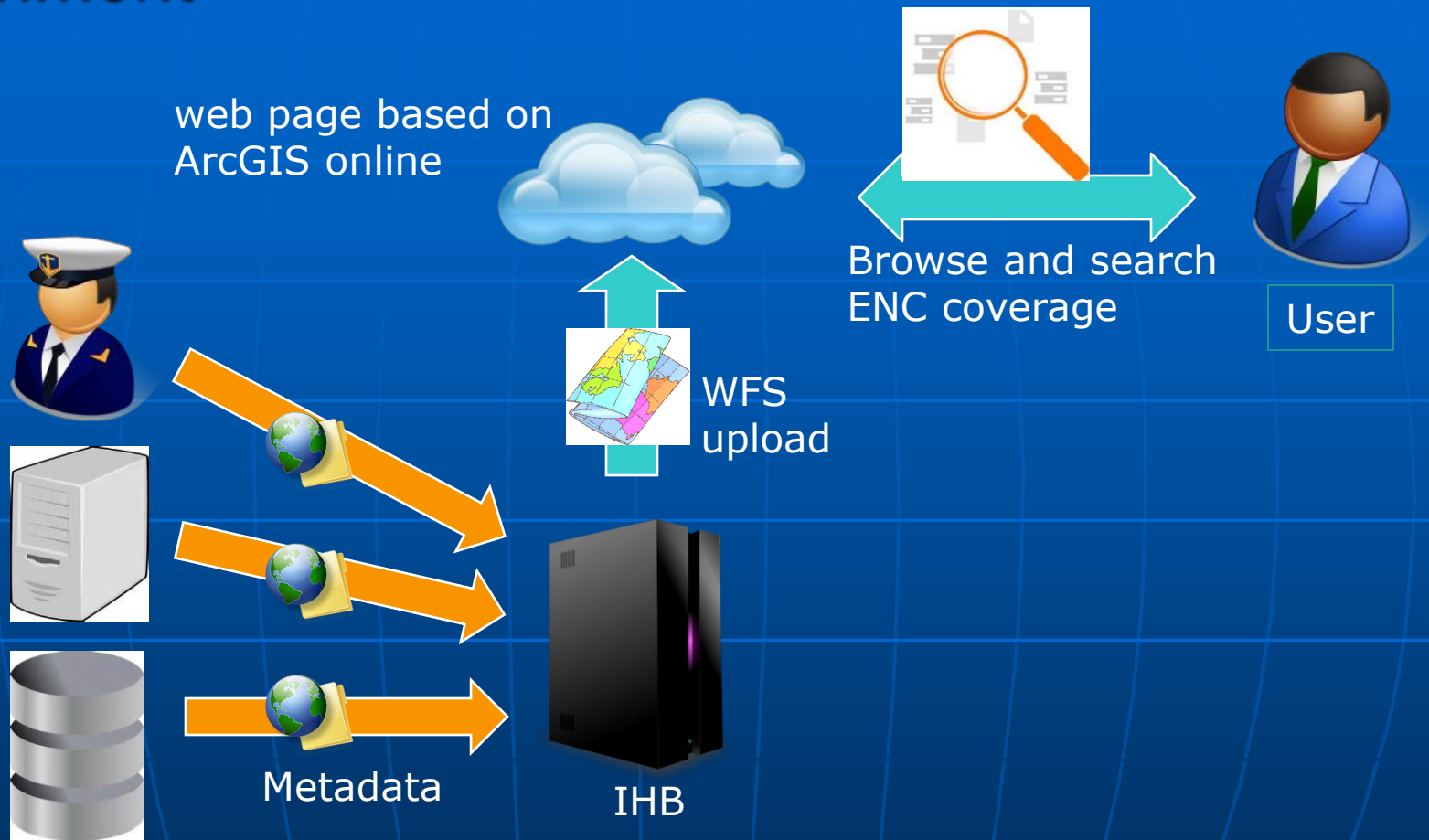
The IHO ENC Catalogue moving into the IHO GIS environment



- ✦ The metadata is provided only from AVCS and kept on the server of the IHB
- ✦ Only the WFS uploaded to the ArcGIS online to be browsed



The IHO ENC Catalogue moving into the IHO GIS environment



- ✦ the ENC metadata, including update information will be collected from many sources
- ✦ Only the WFS uploaded to the ArcGIS online to be browsed



Rationale for migration to a new GIS environment using ArcGIS online

- ✦ Information display much faster (3 x?) than the previous system
- ✦ Compliant for more layers, more features in 1 layer, more attributes for 1 feature
- ✦ All GIS on-line search functions will be available...making analysis much easier for getting SPI, statistics, coverage comparison, etc.
- ✦ Easier and cost-effective system maintenance and updates of the content from an IHB point of view



Examples – a simple interface

IHO ENC Catalogue back to top

Side bar
(legend, layer select, base map select and print)

1000mi 77.719 -97.553 Degrees

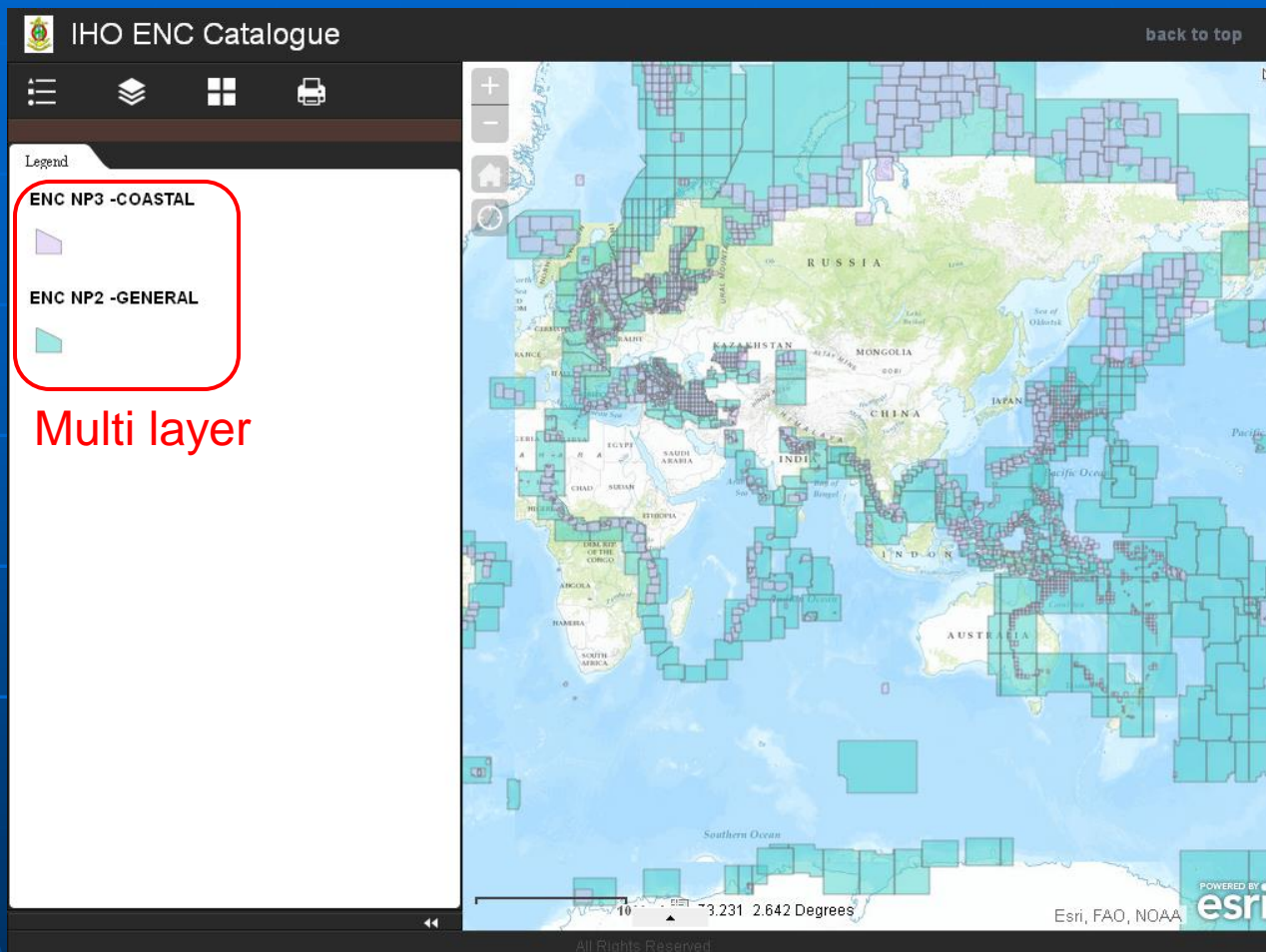
Esri, FAO, NOAA **esri**

POWERED BY

All Rights Reserved



Examples – Layered information



Examples – Layer selection

The screenshot displays the IHO ENC Catalogue interface. On the left, a 'Layer List' panel shows 'Operational Layers' with a list of ENC layers. A red box highlights the following layers:

- ENC NP6 -BERTHING
- ENC NP5 -HARBOUR
- ENC NP4 -APPROACH
- ENC NP3 -COASTAL
- ENC NP2 -GENERAL
- ENC NP1 -OVERVIEW

The main map area shows a geographical view of Southeast Asia, including Malaysia, Singapore, and parts of Indonesia. Various ENC layers are overlaid on the map, with colors ranging from green to orange. The interface includes a 'back to top' link in the top right, a scale bar (60mi) at the bottom left, and a coordinate display (264, 99.300 Degrees) at the bottom center. The Esri logo and 'POWERED BY esri' are visible in the bottom right corner.

Selectable layers by usage band



Examples – Handling

IHO ENC Catalogue

back to top

Layer List

Operational Layers

- Ports
- ENC NP6 -BERTHING
- ENC NP5 -HARBOUR
- ENC NP4 -APPROACH
- ENC NP2 -GENERAL
- ENC NP1 -OVERVIEW

Opacity: Opaque Transparent

0% 50% 100%

Zoom to

Transparency

Move up

Move down

Open Attribute Table

Show Item Details

Operational layer
(transparency,
Sequence of the layers)

20mi 951 103.269 Degrees Esri, HERE, DeLorme, FAO, USGS, NGA

POWERED BY esri

All Rights Reserved



Examples – Attributes

The screenshot displays the IHO ENC Catalogue interface. The map shows Southeast Asia with various ENC features highlighted in green. A popup window is open over a feature, displaying the following attributes:

ENC NP4 - APPROACH	
CELL NAME	ID400065
USAGE BAND	4
SCALE	90,000.00
Zoom to	

Additional text on the screen includes "Detail information popped up with clicking the feature" in red, and a scale bar showing 60 miles. The bottom of the interface includes "All Rights Reserved" and "Powered by Esri, DeLorme, FAO, USGS, NOAA".



Examples – Attributes

The screenshot displays the IHO ENC Catalogue interface. A map of Southeast Asia is shown with several ENC (Electronic Navigational Chart) areas highlighted in green. A popup window is open over one of these areas, displaying the following information:

ENC NP5 -HARBOUR	
CELL NAME	ID500044
USAGE BAND	5
SCALE	22,000.00

Below the table, there is a "Zoom to" link. The popup window title is "(1 of 4)".

When you click the place with multi features
Number of the features shown

Map labels include: MALAYSIA, Kuala Lumpur, Kelang, Pekanbaru, Jambi, Palembang, Pontianak, Kuching, and IHO ENC Catalogue. A scale bar shows 60mi and coordinates 1.154 100.673 Degrees are visible. The map is powered by Esri, DeLorme, FAO, USGS, NOAA.



Examples – Attributes

The screenshot shows the IHO ENC Catalogue web application. On the left, the Layer List includes 'ENC NP5-HARBOUR' which is selected. A context menu is open over this layer, with the 'Open Attribute Table' option highlighted in a red box. The main map area displays a map of Malaysia with various ENC areas highlighted in green and orange. A red box highlights the attribute table below the map, which contains the following data:

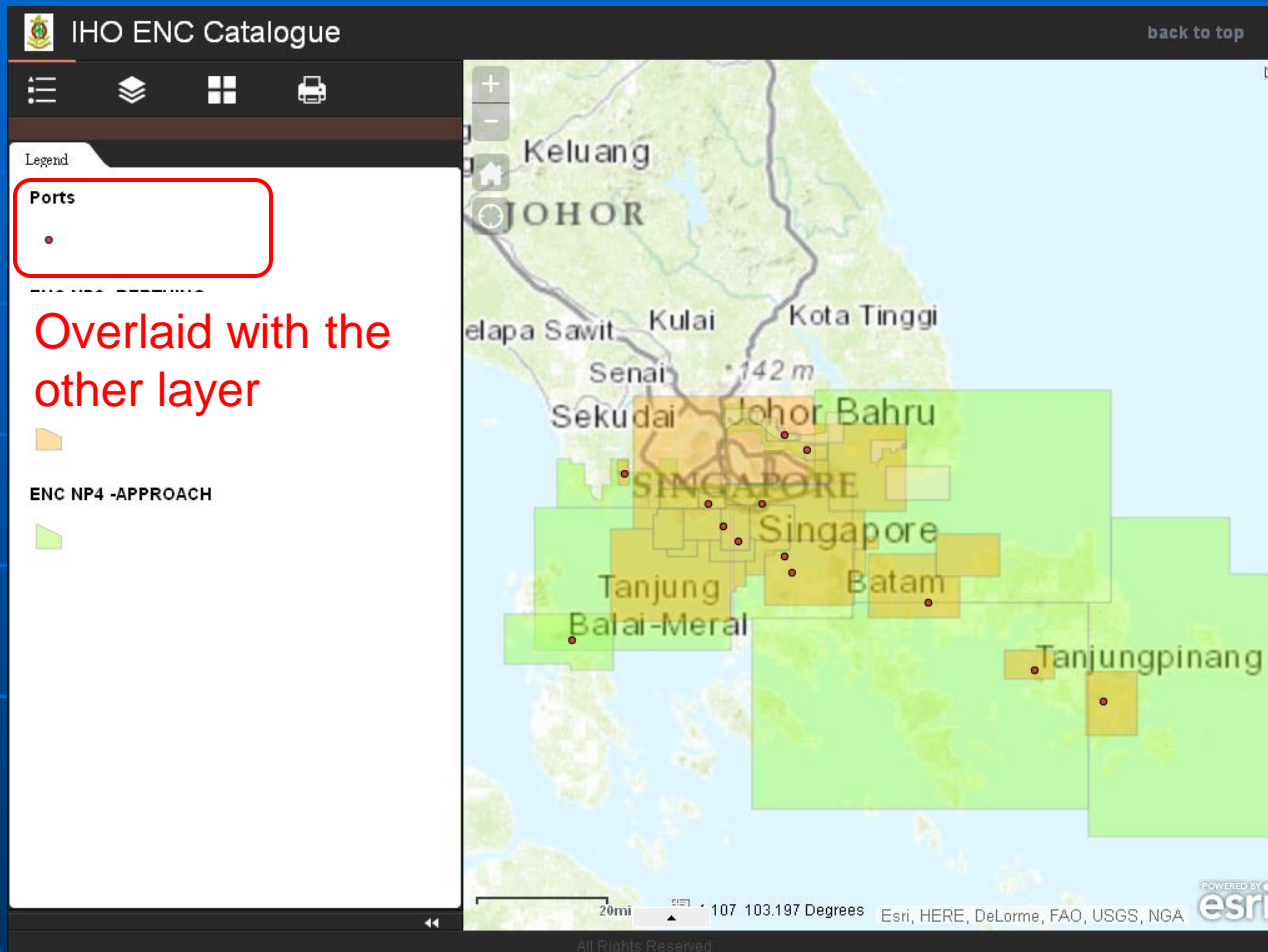
cell name	usage band	scale
LK500109	5	8,000
LT562510	5	22,000
LT562520	5	22,000
LV513505	5	4,000
LV513531	5	4,000

At the bottom of the table, it indicates '25 of 1000 results' and a pagination control showing page 1 of 40.

Table of the detail information can be opened up



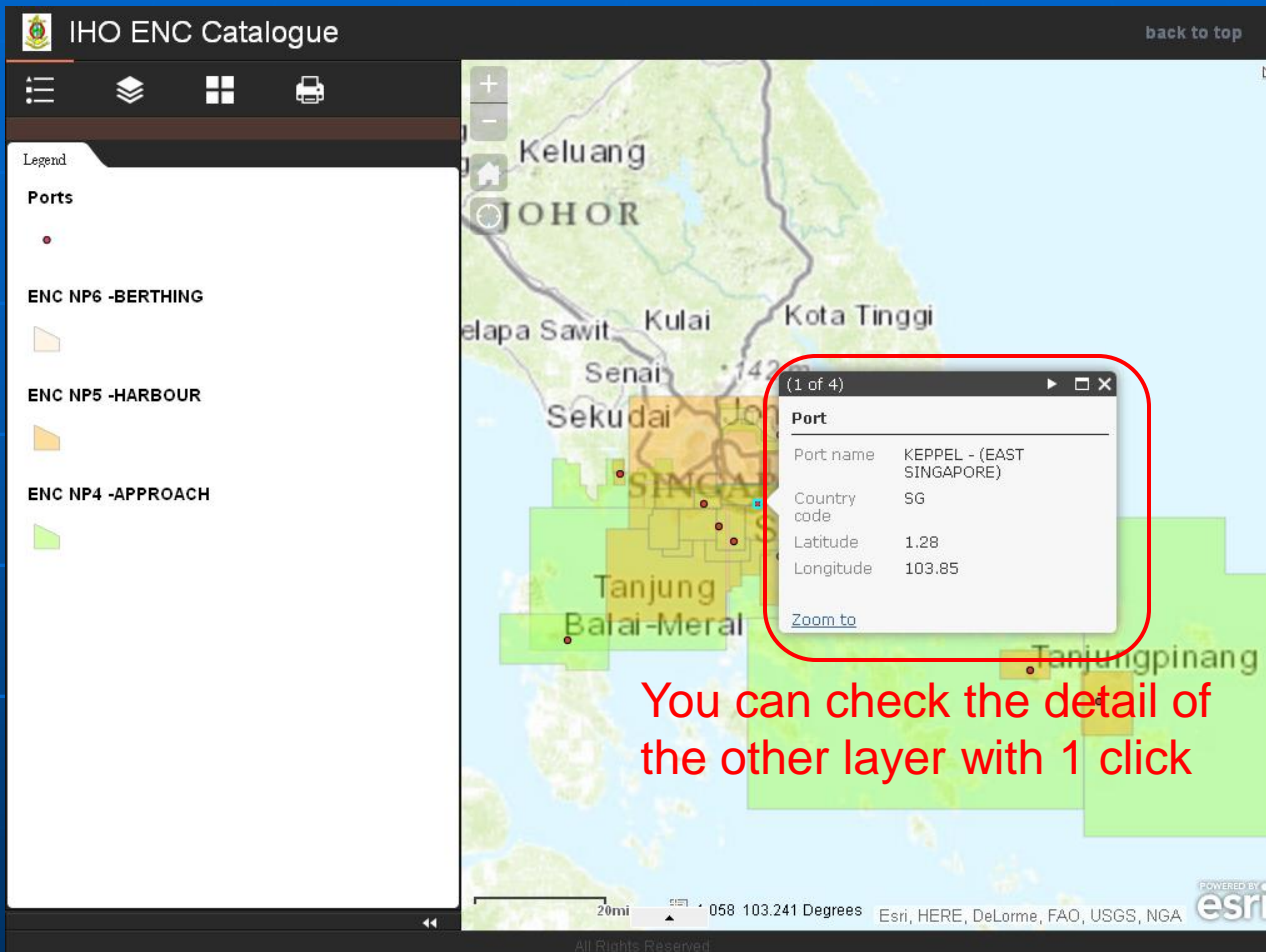
Examples – Overlay with other information



- ✦ Port information derived from “World Port Index” of NGA PUB.150



Examples – Overlay with other information



The screenshot displays the IHO ENC Catalogue interface. On the left, a legend panel lists ENC layers: ENC NP6 -BERTHING (red), ENC NP5 -HARBOUR (orange), and ENC NP4 -APPROACH (green). The map shows these layers overlaid on a geographical map of Singapore, with labels for Keluang, JOHOR, Kota Tinggi, Kulai, Senai, Sekudai, Tanjung Balai-Meral, and Tanjungpinang. A popup window titled '(1 of 4)' is open over the map, showing details for a port:

Port	
Port name	KEPPEL - (EAST SINGAPORE)
Country code	SG
Latitude	1.28
Longitude	103.85
Zoom to	

Below the popup, red text reads: "You can check the detail of the other layer with 1 click". The bottom of the interface shows a scale bar (20mi), coordinates (058 103.241 Degrees), and the Esri logo with the text "POWERED BY esri".



Towards the IHO GIS...

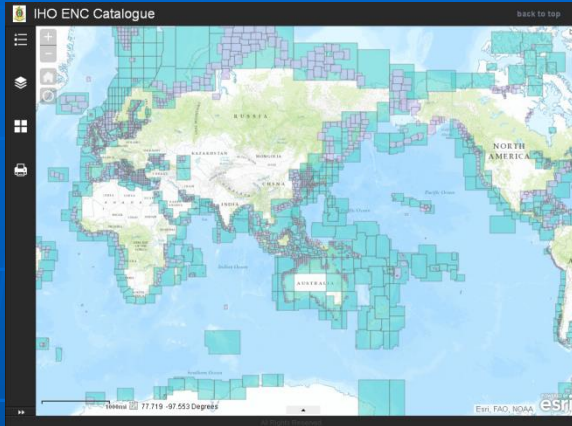
- ✦ Enrich the search function of the features by attribute, by the other layer (f.g. INT region)
- ✦ Overlay with the other information (INT charts, RHC area, INT chart schemes, survey metadata, C-55, ...)
- ✦ Generation of SPI, WPI...
- ✦ Collection all necessary ENC metadata for required functions from various sources



GIS portal for all the IHO geographical information

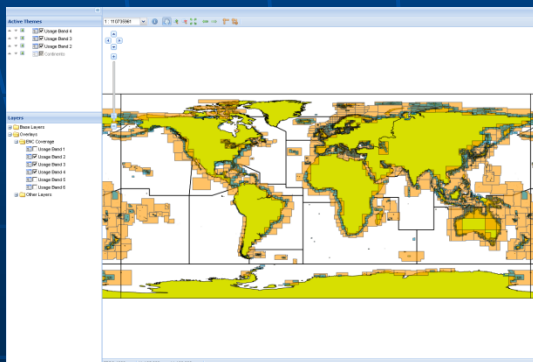


Towards the IHO GIS...



New version

Public (on IHO website)
Starting up March 2015 (tbc)

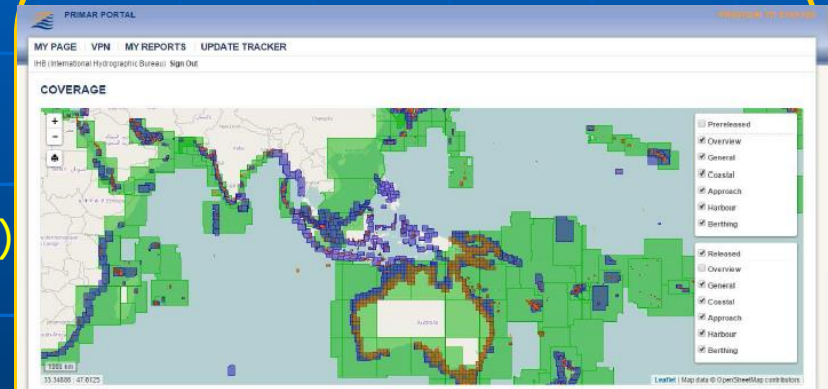


Old version To be superseded

ENC coverage not available
through RENCs



← RENC coverage ←



Coverage & Overlap Checker

Close system
(only internal use by RHC, RENC, IHB...)



Suggested actions to WENDWG

- ✦ Endorse the principles of the IHO ENC Catalogue evolution
- ✦ Take any actions as appropriate (such as ENC metadata provision to IHB, ENC Schemes metadata when they are approved, Top 2000 Ports Ranking 2006 shp, etc.)



Questions?

More on www.iho.int > ENC's & ECDIS > ENC Availability > View ENC Coverage Catalogue

