



Coastal/Marine SDI Capacity Building Webinar Marine SDI supporting MyGDI

29 March 2017

+60 3 3169 4400

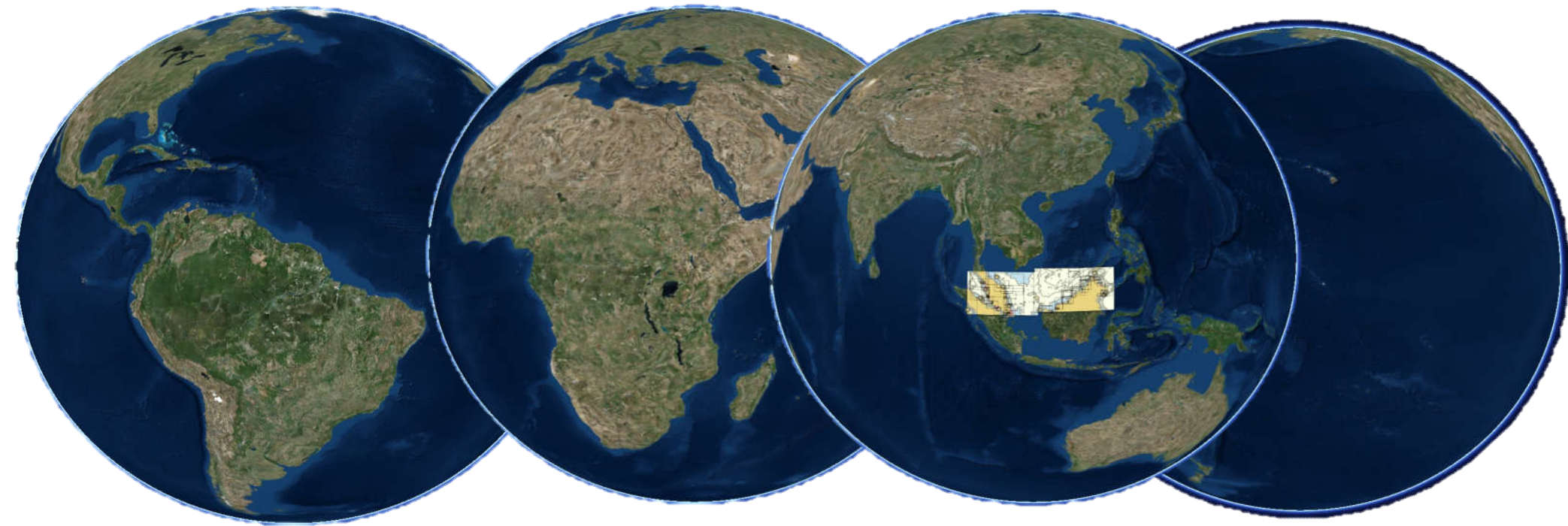
nhc@hydro.gov.my

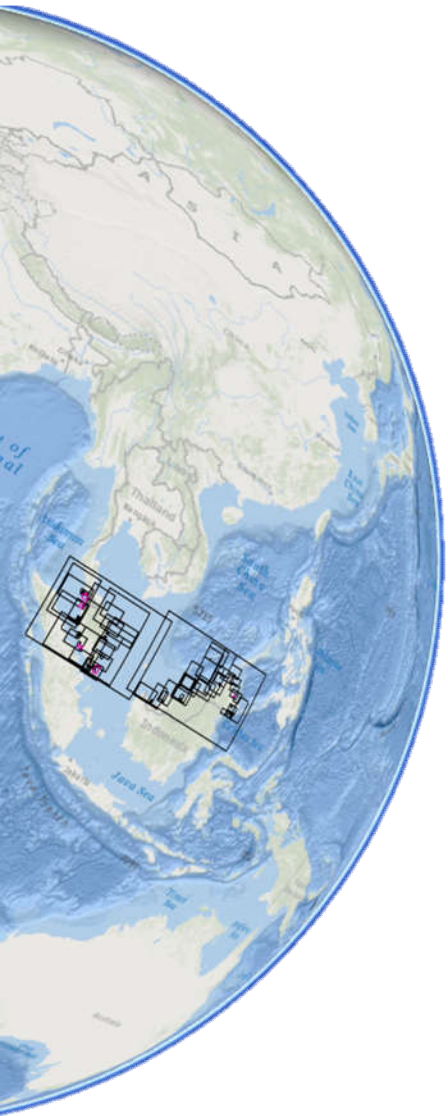
National Hydrographic Centre

NatHydroCentre



Approximately 70% of the earth is covered by water





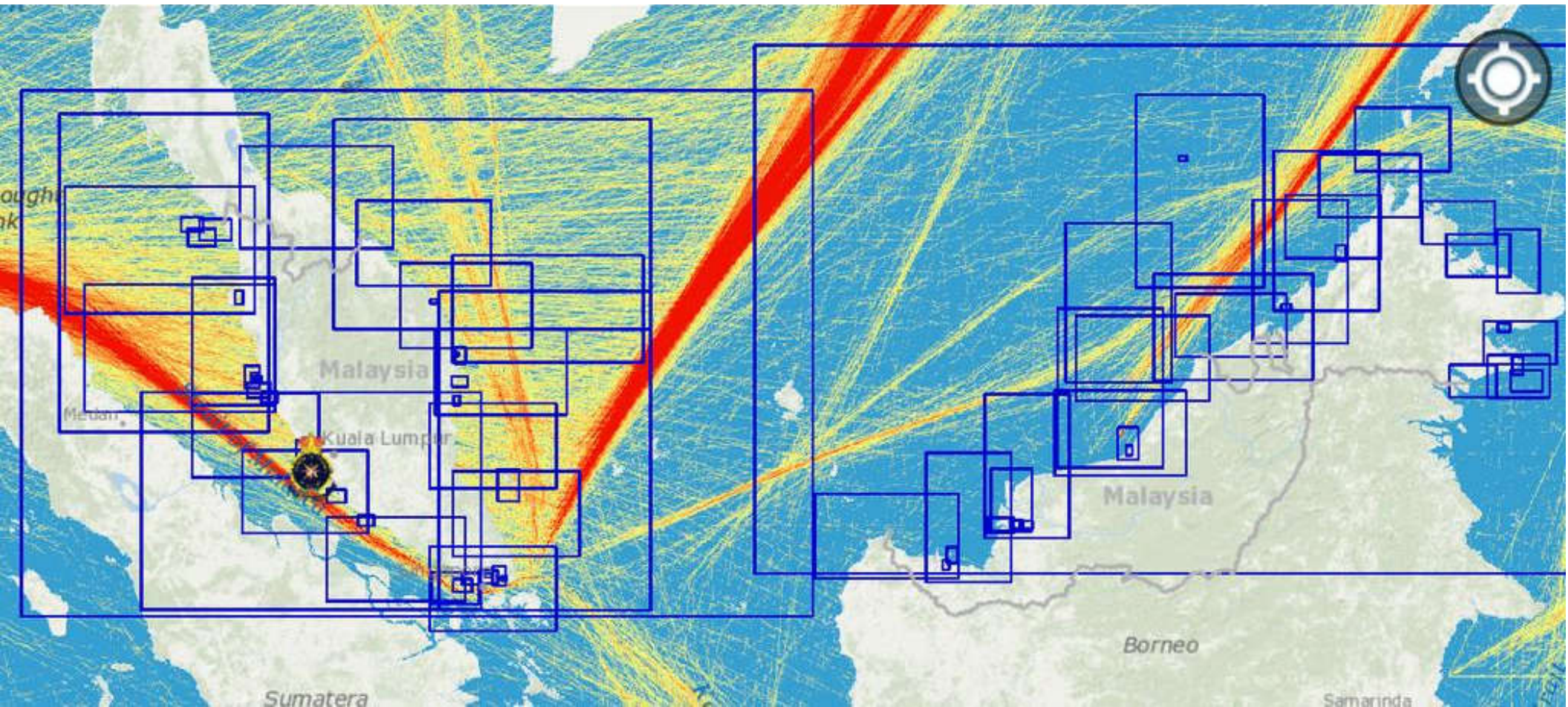
What Malaysia is the maritime nations?

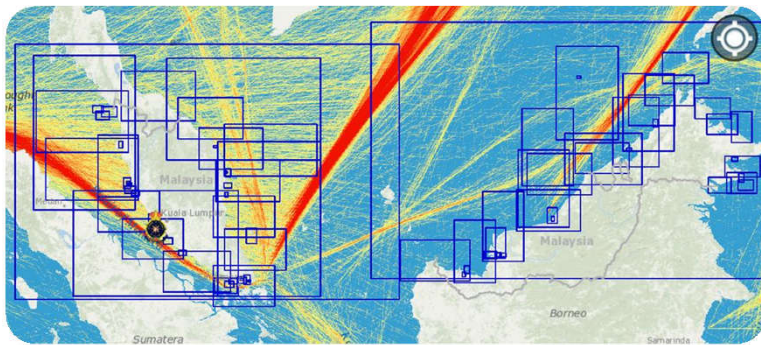
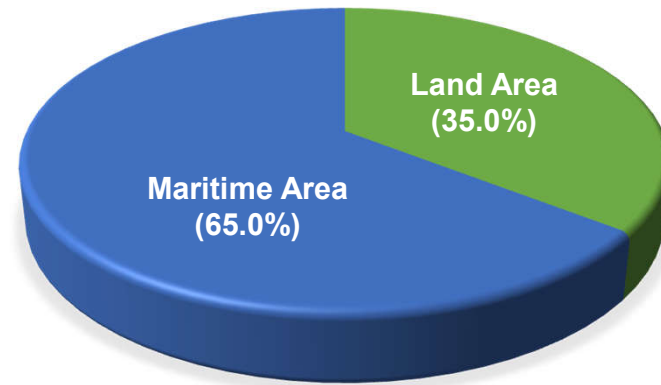
'The Making Of Malaysia As A Maritime Nation' is appropriate and relevant as it highlights Malaysia's aspiration to be a maritime nation in the true sense.....

Because of our history and the close proximity of many Malaysians to the sea we are inclined to regard Malaysia as a maritime nation. We are situated on the trade routes between India and China, between Europe and the East and naturally served as a port of call between monsoons for supplies and crew for all ships plying this route.

Tun Dr. Mahathir, 1997 (Malaysia's First International Maritime Conference)

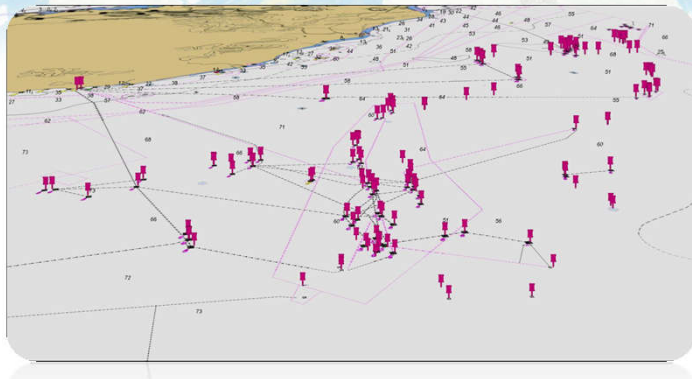
Shipping Density Analysis





Internal Waters	94, 132 km square
Territorial Waters	65, 035 km square
EEZ	379, 820 km square
Continental Shelf	439, 373 km square

Total	598, 540 km square
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**Malaysia as
a Maritime
Country**



Marine SDI

Marine Governance

PRIME MINISTER DEPT

- National Security Council
- Economic Planning Unit
- Maritime Enforcement Agency

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

- National Mapping Agency
- MaCGDI
- Dept of Environment
- Dept Marine Park
- Dept Irrigation & Drainage
- Dept Mineral and Geoscience
- NAHRIM
- Dept DG of Land and Mines

MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION

- National Oceanography Directorate
- Meteorological Dept
- Remote Sensing Agency

MINISTRY OF DEFENCE

- Royal Malaysian Navy
- National Hydrographic Centre

MINISTRY OF DOMESTIC TRADE, CO-OPERATIVES AND CONSUMERISM

- EEZ Act

MINISTRY OF AGRICULTURE AND AGRO-BASED INDUSTRY

- Dept of Fisheries
- Fisheries Development Authority

MINISTRY OF FOREIGN AFFAIRS

- Multilateral Economic and Environment Division

MINISTRY OF TOURISM AND CULTURAL

- Department of Natural Heritage

MINISTRY OF TRANSPORT

- Marine Dept
- Port Authority
- Maritime Institute of Malaysia (MIMA)

MINISTRY OF HOUSING AND LOCAL GOVERNMENT

- Department of Town And Country Planning Peninsular Malaysia

MINISTRY OF ENERGY, GREEN TECHNOLOGY AND WATER

- Ocean Renewable Energy

Situational Analysis

Marine Data Management-Knowledge Management

Marine is Complex

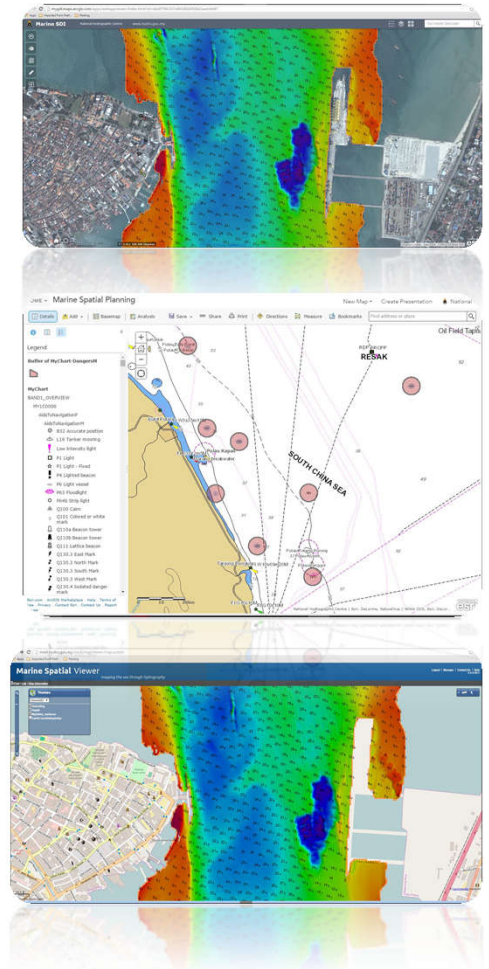
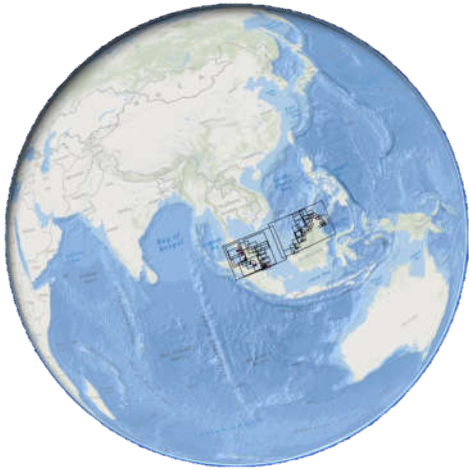
Different jurisdictions under various agencies/ministries

- Heterogeneous
- Distributed
- Autonomous

Need mechanism for sharing

Seamless Solution

Marine SDI

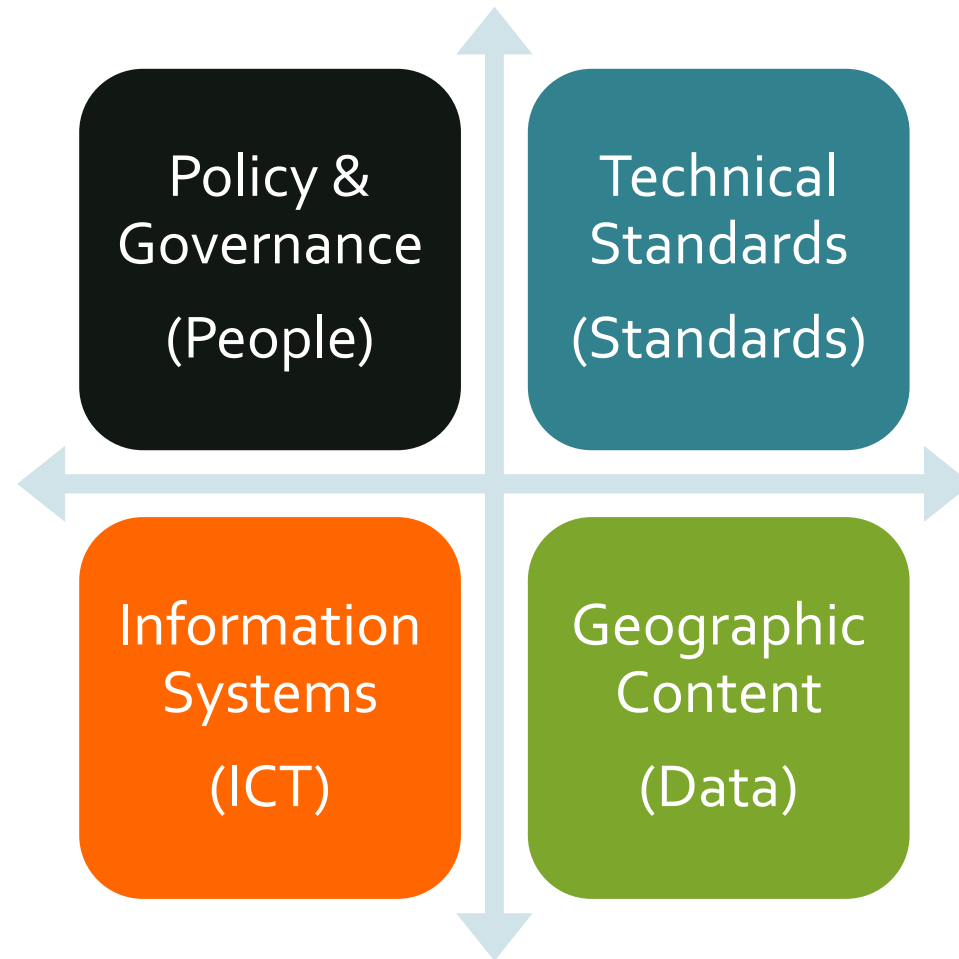
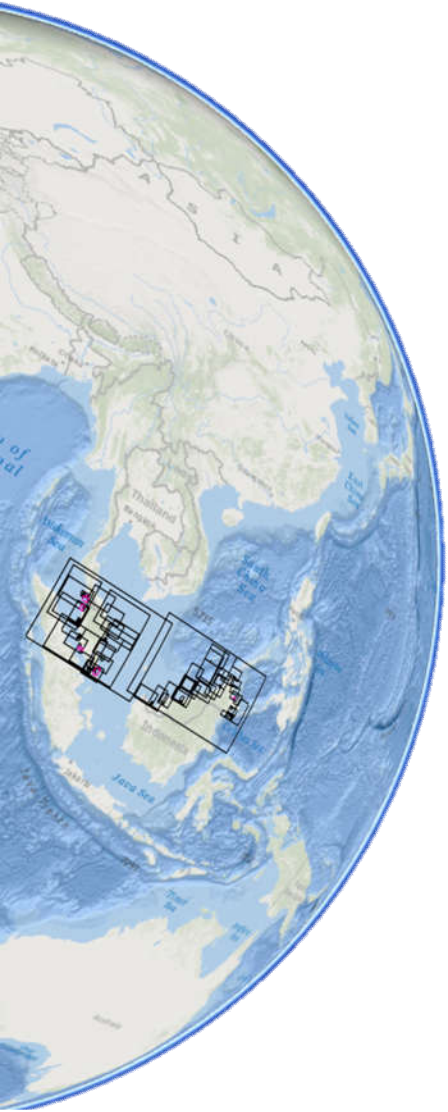


Malaysia Geospatial Data Infrastructure (MyGDI)

- MyGDI as a National Spatial Data Infrastructure (NSDI)
- Malaysian Center for Geospatial Data Infrastructure(MaCGDI) is a center under Ministry of Natural Resources and Environment (NRE)
- MaCGDI was formed in 2002 to promote the development and implementation of MyGDI
- MaCGDI plays crucial roles to spearhead the geospatial industry in Malaysia.

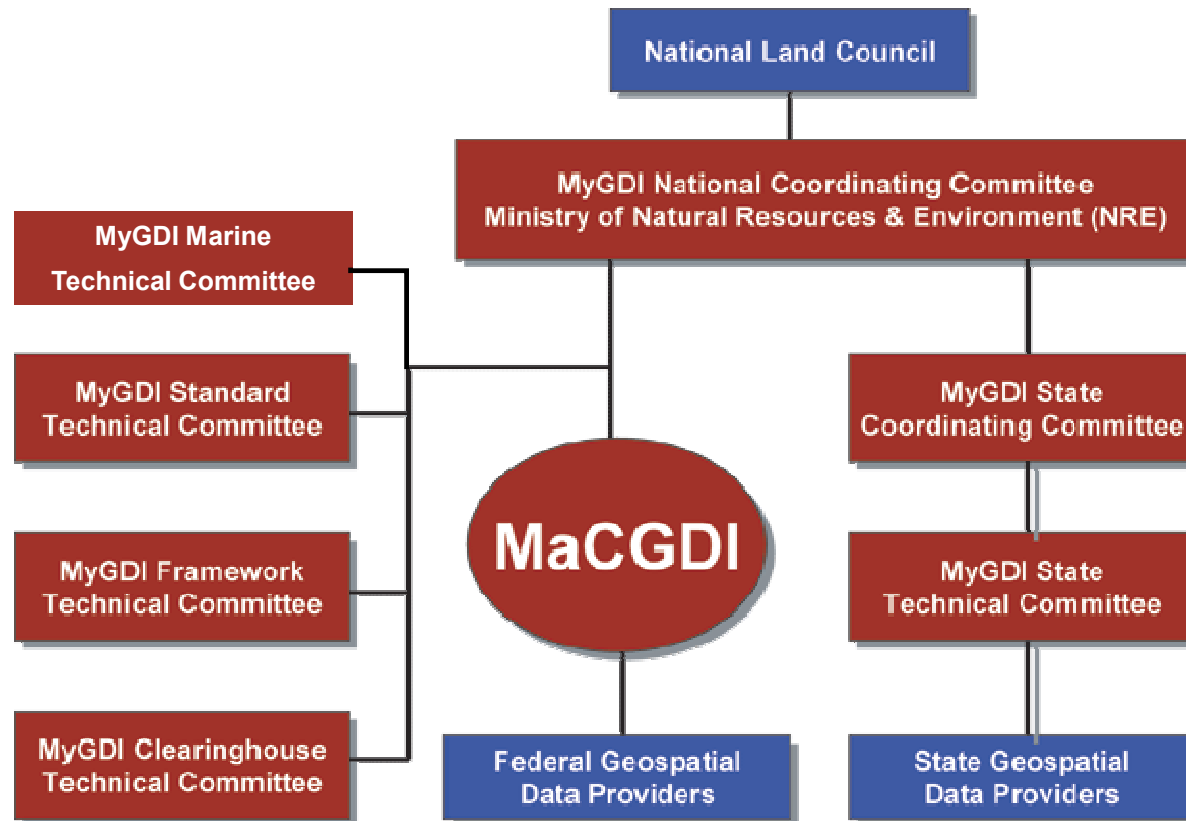


Key MSDI Components

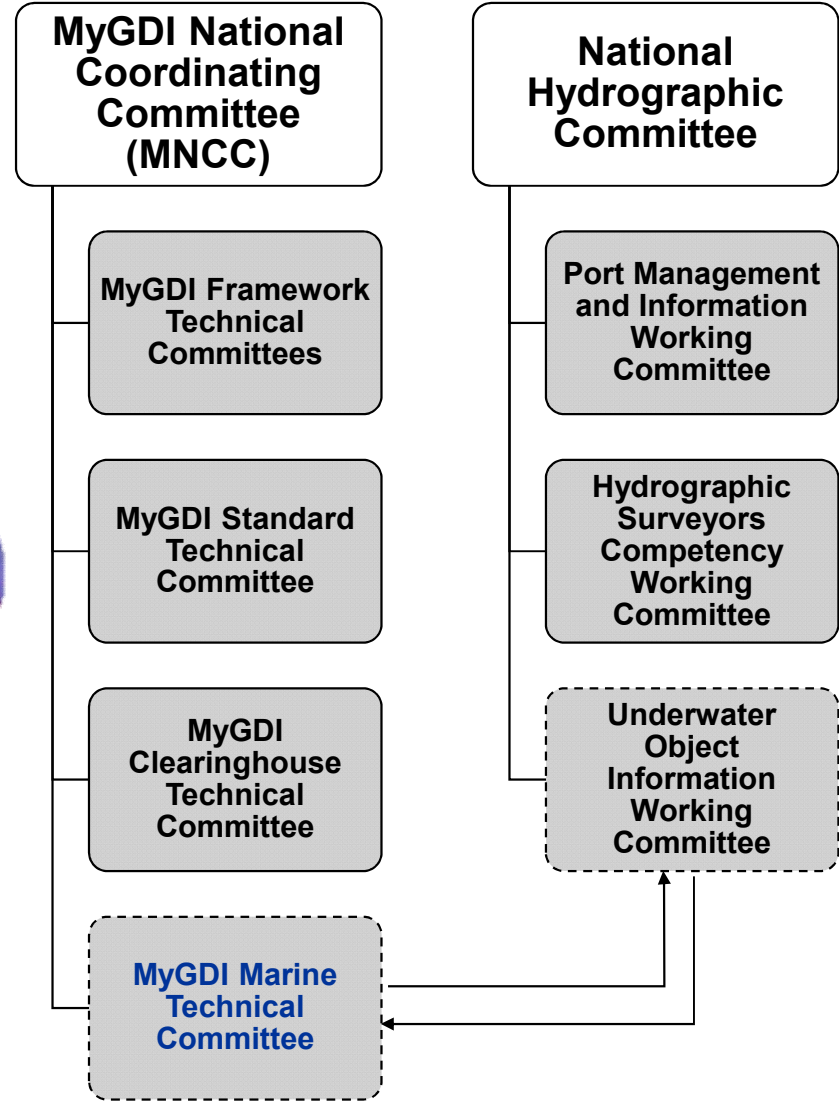


Policy & Governance (People)

MyGDI GOVERNANCE

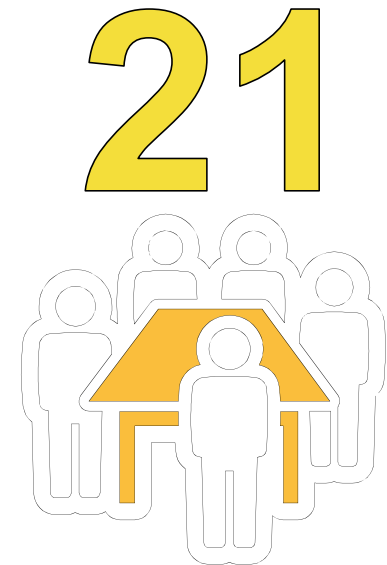


Policy & Governance (People)



MyGDI Marine Technical Committee

- a. Lead Agency : National Hydrographic Centre
- b. Secretariat : Malaysian Centre for Geospatial Data Infrastructure (MaCGDI)
- c. Permanent Members (Data Provider/ Ownership)
 - (1) Department of Survey and Mapping Malaysia (JUPEM)
 - (2) Minerals and Geoscience Department Malaysia (JMG)
 - (3) Malaysian Meteorological Department (MMD)
 - (4) Marine Department Malaysia (JLM)
 - (5) Department of Irrigation and Drainage (DID)
 - (6) Department of Environment (DOE)
 - (7) Department of Fisheries Malaysia (DoF)
 - (8) Department of Marine Park Malaysia (DMPM)
 - (9) Department of National Heritage (DNH)
 - (10) Strategic Technology and S & T Application Division (formerly NOD), MOSTI.
 - (11) Ministry of Energy, Green Technology and Water (KeTTHA)
 - (12) National Water Services Commission (SPAN)
 - (13) Malaysian Communications and Multimedia Commission (MCMC)
 - (14) Malaysia Petroleum Management (MPM)
- d. Supporting Agencies
 - (15) Tenaga Nasional Berhad (TNB)
 - (16) Telekom Malaysia Berhad (TM)

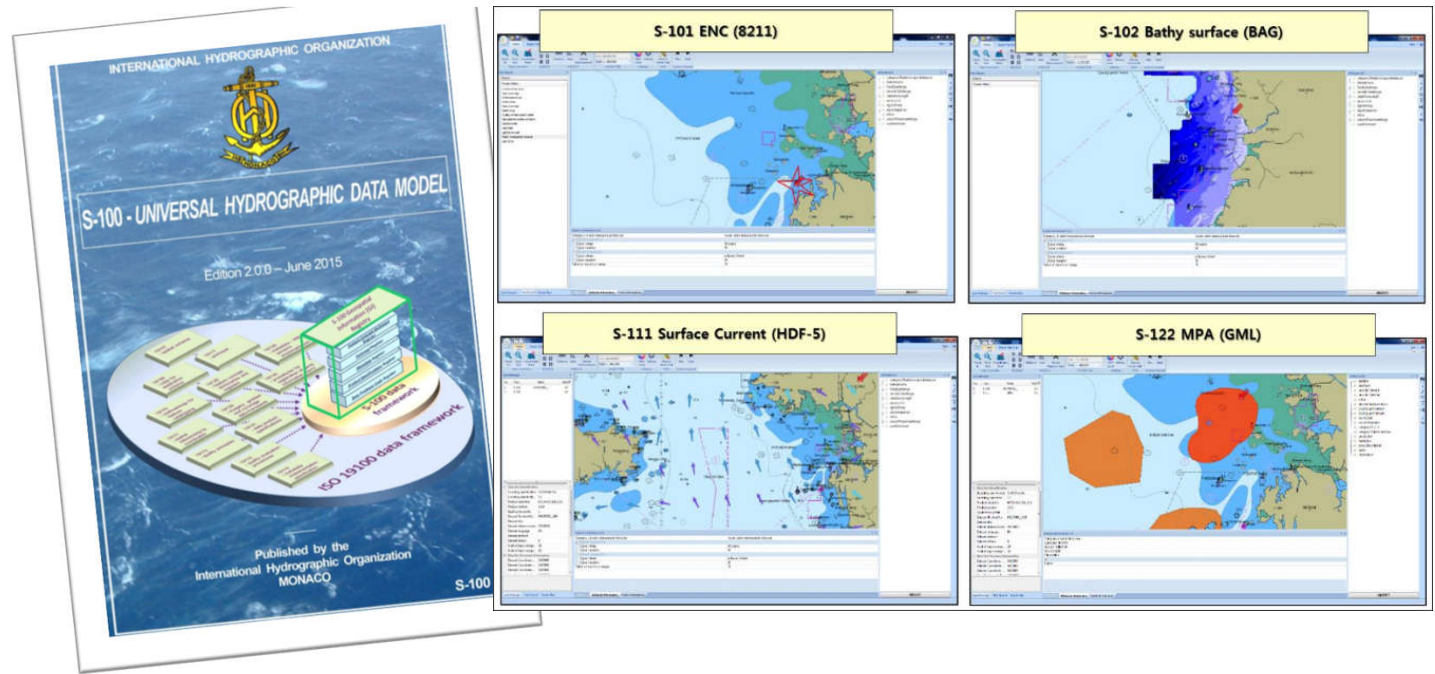


**Policy & Governance
(People)**

**MyGDI Marine Technical Committee
6th Oct 2016**



Technical Standards (Standards)

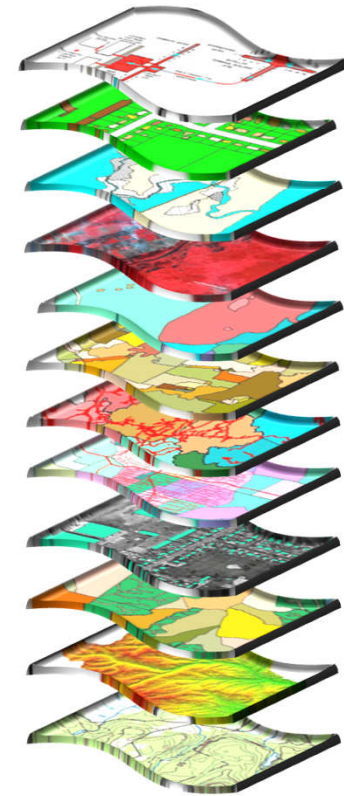


S-57 / S-100 and others product specification



**Data dissemination through OGC Web Service
.....WMS/WMTS/WFS/WCS etc....**

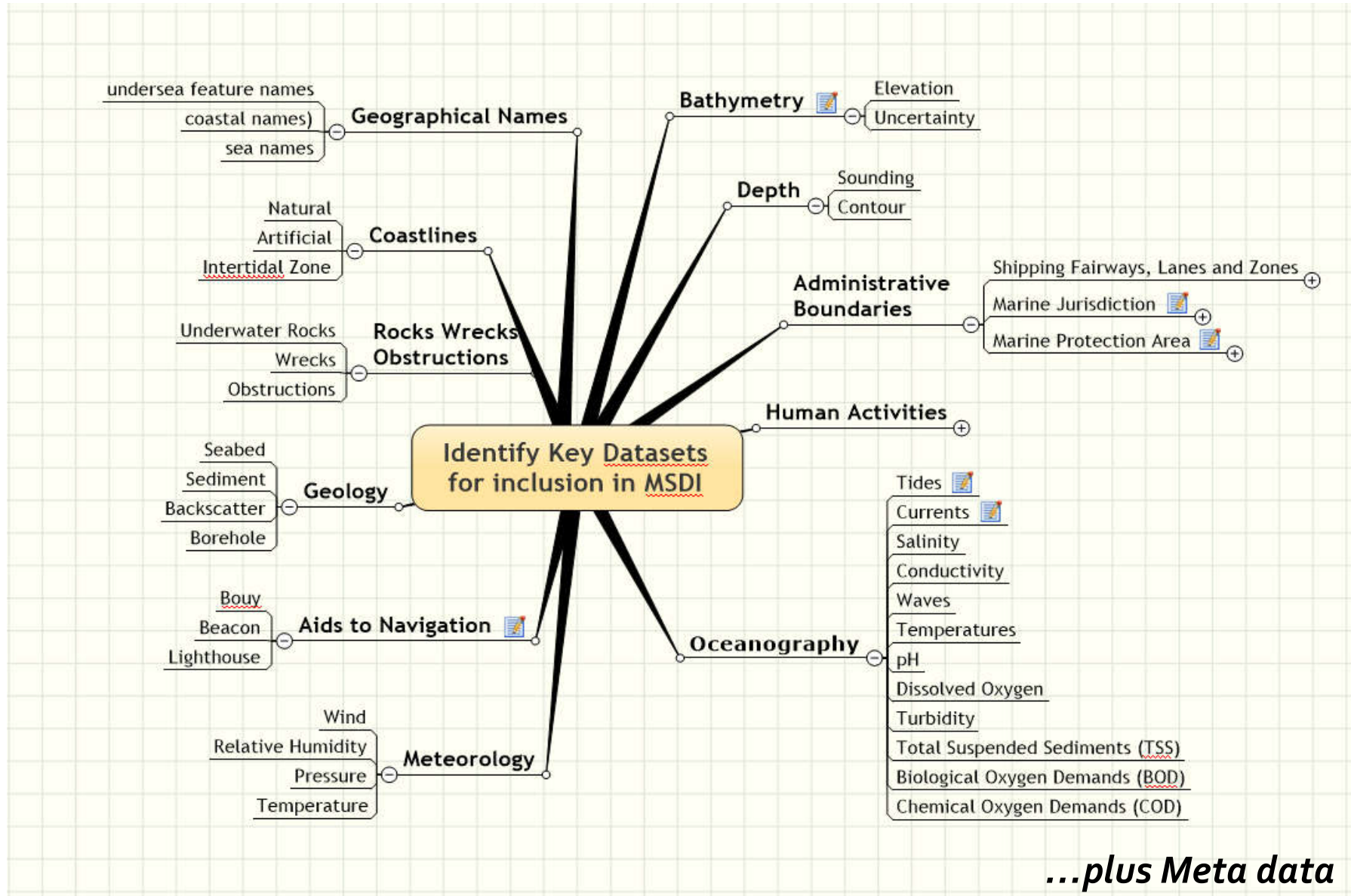
Geographic Content (Data)



Framework Data Categories

CATEGORIES	LEAD AGENCIES
Aeronautical	DCA
Built Environment	JUEM
Demarcation	JUEM
Geology	JMG
Hydrography	NHC
Hypsography	JUEM
Soil	DOA
Transportation	JKR
Utility	JUEM
Vegetation	DOA
Special Use	JUEM
General	JUEM

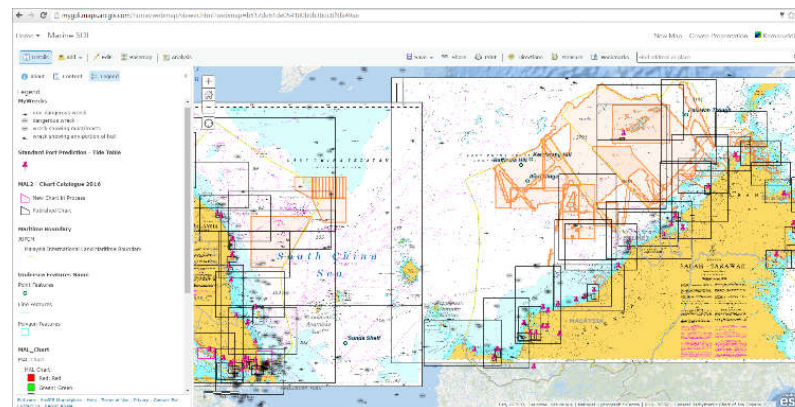
Geographic Content (Data)



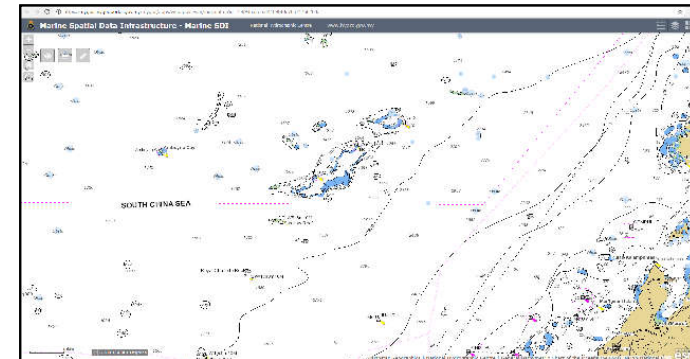
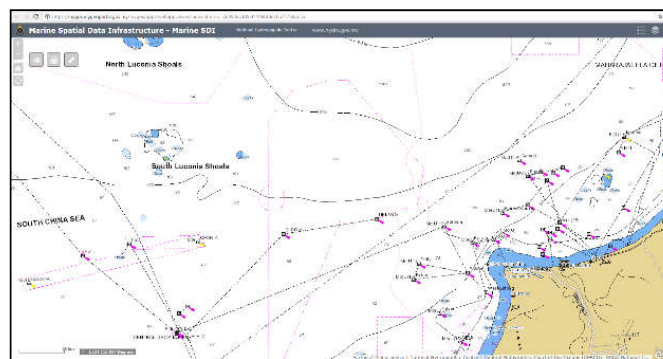
...plus Meta data

Hydrographic data and its role in MSDI

- Raster charts as basemap

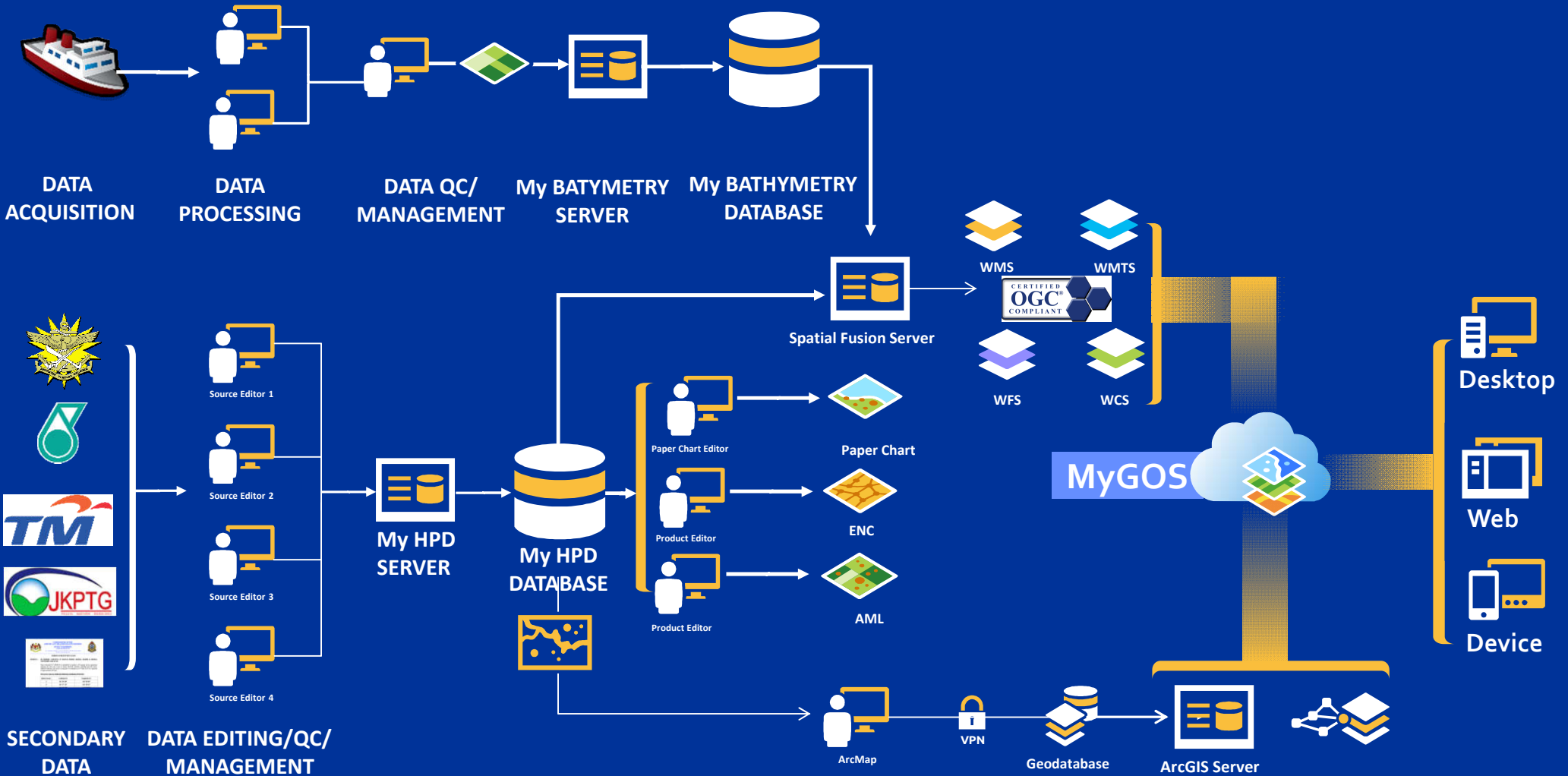


- ENC - S57 data as operational /additional layer



Hydrographic data sets and data infrastructure

Hydrographic Data Management Workflow



MyGEOPORTAL

- Malaysia Geoportal is the visible front-end to MyGDI, the gateways through which users access the geospatial information services
- Access and distribution of geospatial information is at the heart of MyGDI project.
- This portal allows Users to explore, view and access the implementation of MyGDI, initiatives and its related applications



www.mygeoportal.gov.my

MyGDI Applications

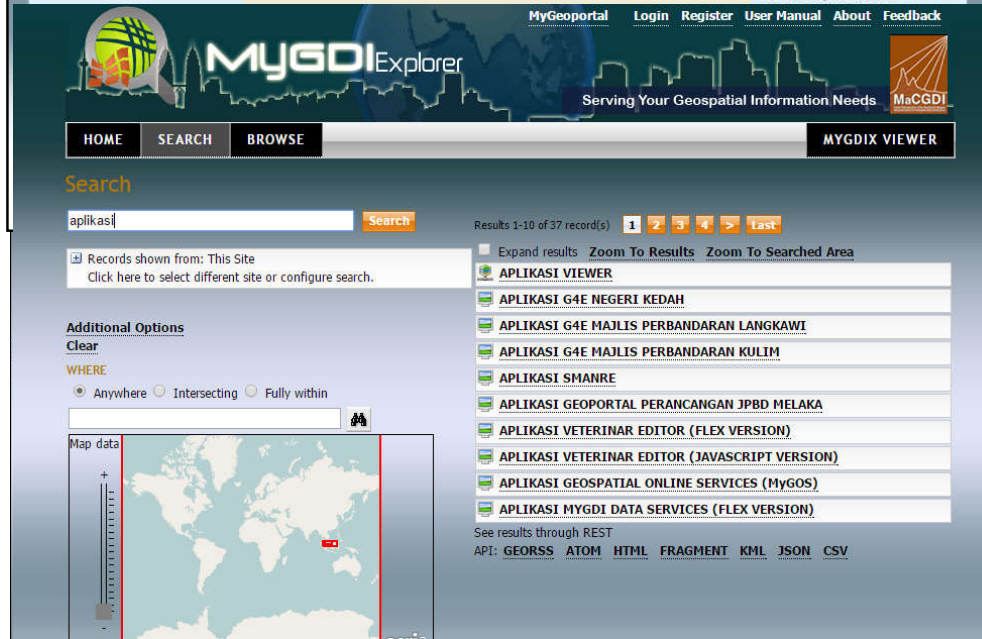


<http://www.mygeoportal.gov.my/data-services>

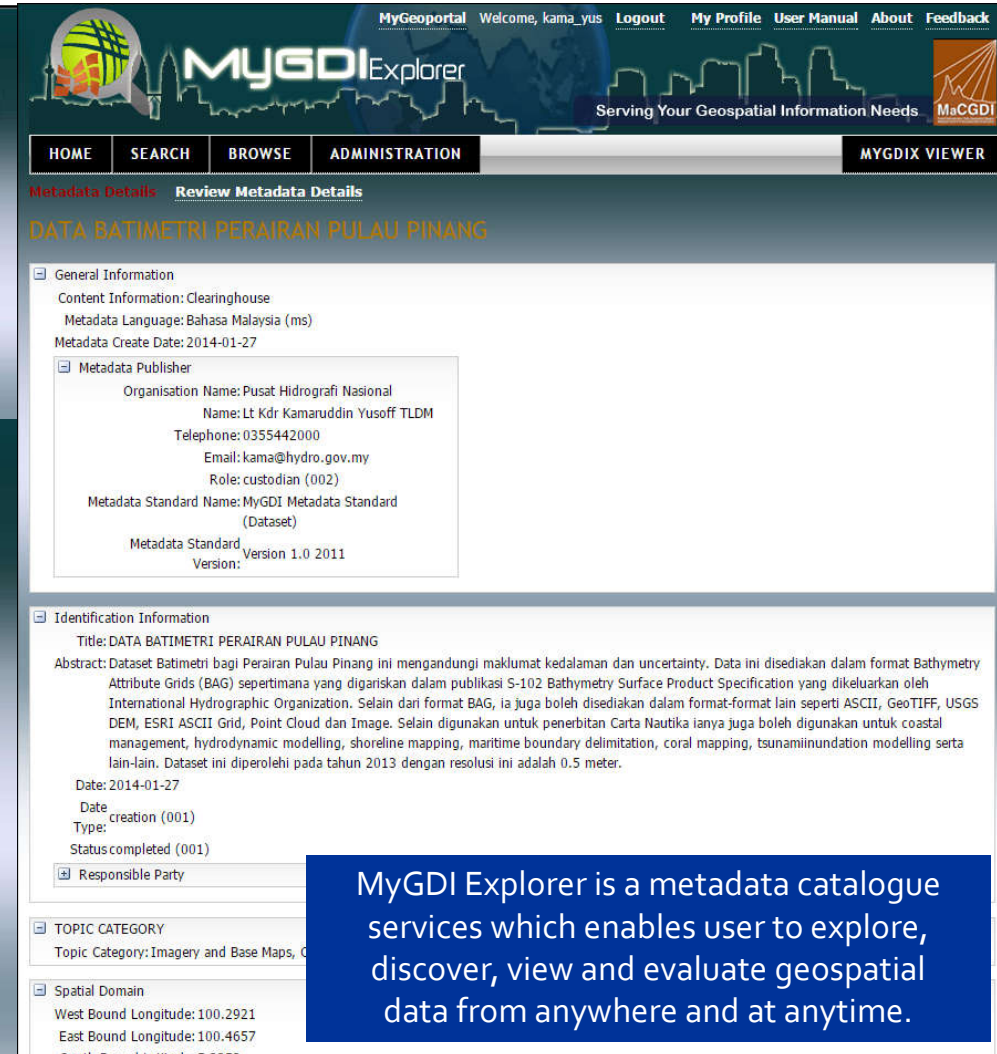
MyGDI EXPLORER



The screenshot shows the MyGDI Explorer homepage. At the top, there is a navigation bar with links for 'User Manual', 'MyGeoportal', 'Login', 'Register', 'About', and 'Feedback'. The main header features the MyGDI Explorer logo and the tagline 'Serving Your Geospatial Information Needs'. Below the header, there are navigation tabs for 'HOME', 'SEARCH', and 'MYGDIX VIEWER'. The main content area is titled 'The MyGDI Explorer' and includes a 'Metadata Tool' section, a 'You can simply:' section with options like 'Find geospatial resources', 'Become a Member', and 'Publish Content', and a 'Related Updates' section.



This screenshot displays the search results page on MyGDI Explorer. The search bar contains the text 'aplikas'. The results are listed as 'Results 1-10 of 37 record(s)'. The first result is 'APLIKASI VIEWER', followed by 'APLIKASI G4E NEGERI KEDAH', 'APLIKASI G4E MAJLIS PERBANDARAN LANGKAWI', 'APLIKASI G4E MAJLIS PERBANDARAN KULIM', 'APLIKASI SMANRE', 'APLIKASI GEOPORTAL PERANCANGAN JPBD MELAKA', 'APLIKASI VETERINAR EDITOR (FLEX VERSION)', 'APLIKASI VETERINAR EDITOR (JAVASCRIPT VERSION)', 'APLIKASI GEOSPATIAL ONLINE SERVICES (MyGOS)', and 'APLIKASI MYGDI DATA SERVICES (FLEX VERSION)'. There are also options to 'Expand results', 'Zoom To Results', and 'Zoom To Searched Area'. A map data viewer is visible at the bottom left.



This screenshot shows the 'Metadata Details' page for 'DATA BATIMETRI PERAIRAN PULAU PINANG'. The page includes a navigation bar with 'HOME', 'SEARCH', 'BROWSE', 'ADMINISTRATION', and 'MYGDIX VIEWER'. The main content area is titled 'Metadata Details' and 'Review Metadata Details'. It contains several sections: 'General Information' (Content Information: Clearinghouse, Metadata Language: Bahasa Malaysia (ms), Metadata Create Date: 2014-01-27), 'Metadata Publisher' (Organisation Name: Pusat Hidrografi Nasional, Name: Lt Kdr Kamaruddin Yusoff TLDM, Telephone: 0355442000, Email: kama@hydro.gov.my, Role: custodian (002), Metadata Standard Name: MyGDI Metadata Standard (Dataset), Metadata Standard Version: 1.0 2011), 'Identification Information' (Title: DATA BATIMETRI PERAIRAN PULAU PINANG, Abstract: Dataset Batimetri bagi Perairan Pulau Pinang ini mengandungi maklumat kedalaman dan uncertainty. Data ini disediakan dalam format Bathymetry Attribute Grids (BAG) sepertimana yang digariskan dalam publikasi S-102 Bathymetry Surface Product Specification yang dikeluarkan oleh International Hydrographic Organization. Selain dari format BAG, ia juga boleh disediakan dalam format-format lain seperti ASCII, GeoTIFF, USGS DEM, ESRI ASCII Grid, Point Cloud dan Image. Selain digunakan untuk penerbitan Carta Nautika ianya juga boleh digunakan untuk coastal management, hydrodynamic modelling, shoreline mapping, maritime boundary delimitation, coral mapping, tsunamiinundation modelling serta lain-lain. Dataset ini diperolehi pada tahun 2013 dengan resolusi ini adalah 0.5 meter. Date: 2014-01-27, Date creation (001), Type creation (001), Status completed (001)), 'Responsible Party', 'TOPIC CATEGORY' (Topic Category: Imagery and Base Maps, C), and 'Spatial Domain' (West Bound Longitude: 100.2921, East Bound Longitude: 100.4657, South Bound Latitude: 5.2353).

MyGDI Explorer is a metadata catalogue services which enables user to explore, discover, view and evaluate geospatial data from anywhere and at anytime.

MyGDI Data Services

The screenshot displays the MyGDI Data Services web mapping application. The browser address bar shows the URL: <https://mygos.mygeoportal.gov.my/myservices/>. The application header includes the title "MyGDI Data Services" and the subtitle "a web mapping application for government". A search bar with "Esri World Geocoder" is present.

The main map area shows a depth contour map of a coastal region, likely in Malaysia, with various geographical features and labels. The map is overlaid with a depth contour layer, showing different shades of blue representing different depths. Labels on the map include "Perak", "Kpg Teluk Belanga", "Kpg Teluk Dalam", "Kpg Sungai Pinang Kecil", "Sungai Pinang Kecil", "Kpg Sungai Pinang Besar", "Kpg Pasir Bogak", "Kpg Teluk Kecil", "Kpg Teluk Batik", "Jalan Damar Laut", "Lumut", "Jalan Raja Musa", "Jalan Iskandar Shah", "Jalan Panglima", "Jalan Teluk Muroh", "Kpg Padang Tembak", "Lebuhraya Ipoh-Lumut", "Jalan Venice Raya 1", "Kpg Pundut", "Jalan Iskandar Shah", "Manjung", "Pejabat Kemas Daerah Manjung", "Jalan Semarak Api", "Fasa 1C3", "Jalan Kuar", "Fasa 1C3", and "esri".

On the left side, there is a "Layer List" panel with the following layers:

- Operational Layers
 - Aeronautical Semenanjung Malaysia
 - Built Environment Point Of Interest (POI) Semenanjung Malaysia
 - Buoy
 - Buoy_P
 - Coast
 - Depth Area
 - Surveyed Depth Contour
 - Light House
 - General Sabah & Sarawak

4.257 100.546 Degrees

0.6mi



Malaysia Geospatial Online Services (MyGOS)

HOME GALLERY MAP SCENE GROUPS Sign In



MyGOS

Malaysia Geospatial Online Services

Public Viewers



1 Malaysia Map Application



Built Environment



Hydrography



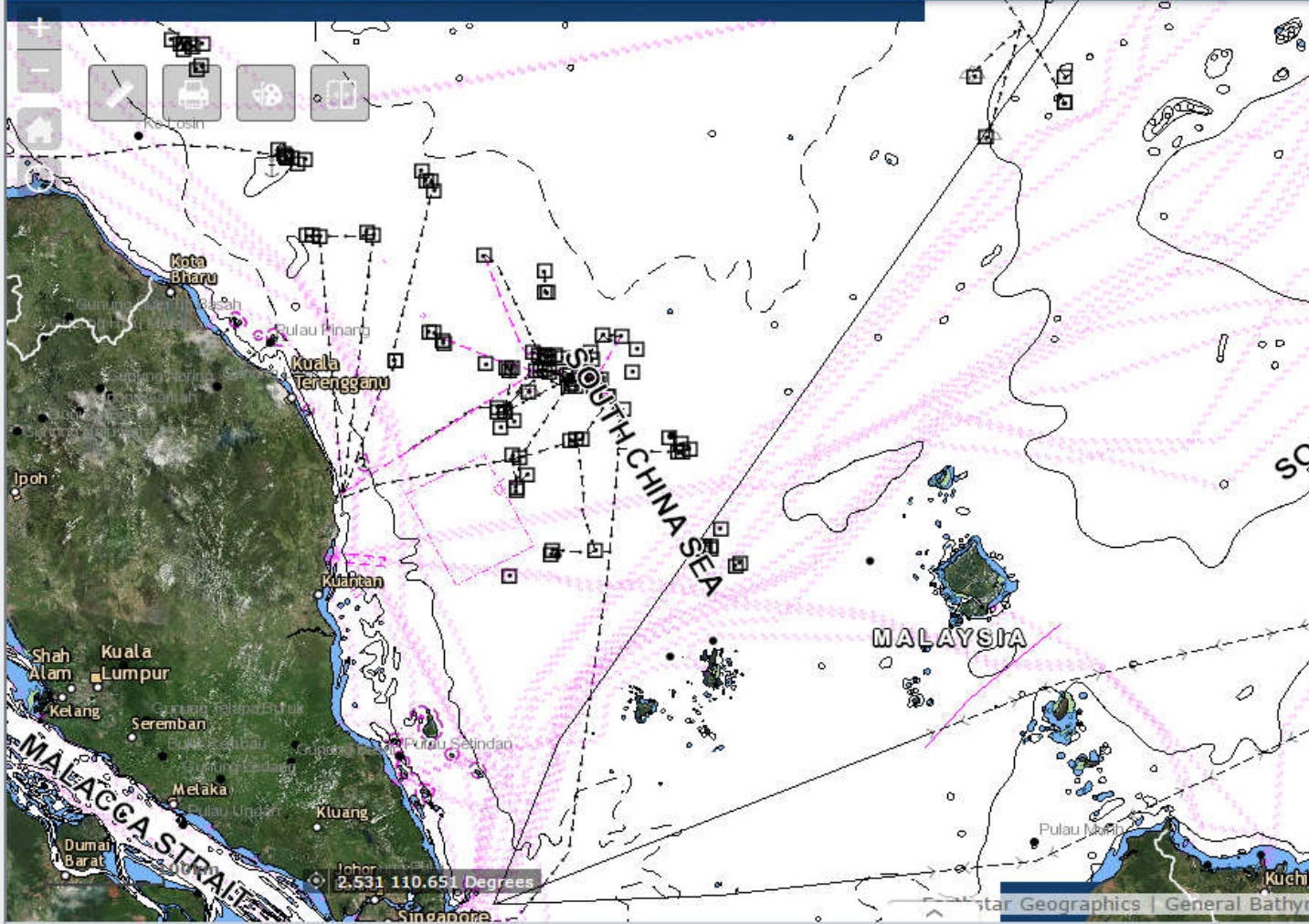
Malaysian Chart Catalogue
2015 - MAL 2

<https://www.mygos.gov.my/mygos/apps/webappviewer/index.html?id=53b0621c...>

www.mygeoportal.gov.my

Malaysia Geospatial Online Services (MyGOS) A platform for user to promote sharing of geospatial information. It enables you to turn your data into web-enabled services that your whole organization members can use.

- Online mapping platform
- Content management platform
- Collaborative and sharing platform



Legend

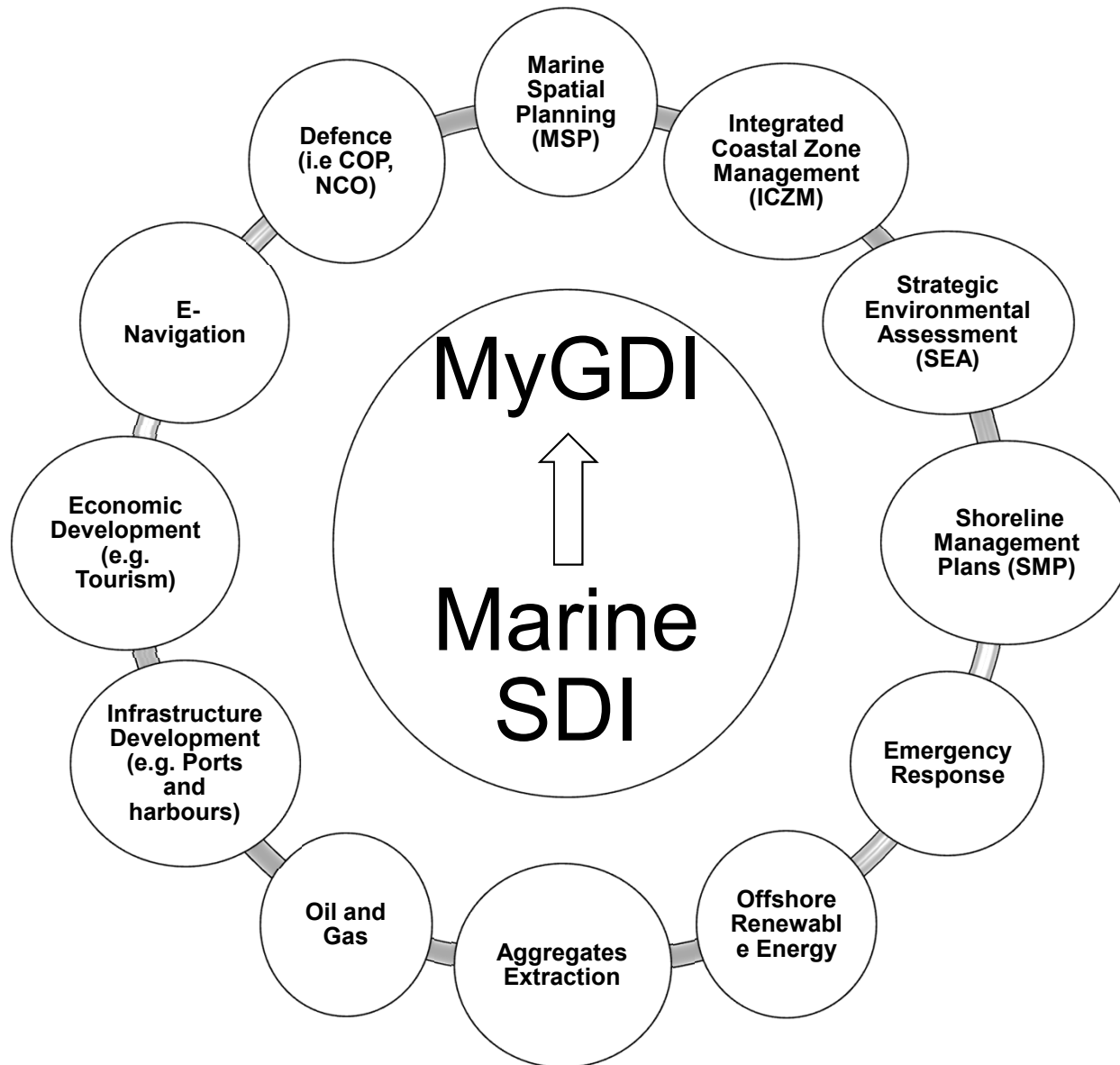
- L30.1 Submarine cable
- L31.1 Submarine power cable
- L32 Disused submarine cable
- L40.1 Oil, gas pipeline
- L41.1 Discharge pipeline
- L44a Disused discharge pipeline
- L44a Disused oil, gas pipeline
- Q42 Mooring cable/chain

MyChart - SeabedL

- Free Representation
- No Symbol Line
- <all other values>

MyChart - CulturalFeaturesA

- K44.1 Fishing stakes line
- F60 Harbour masters office
- E35.1 Quarry
- E34.1 Fortified structure area
- E32 Tank areas



CONCLUSIONS

- MSDI is about “best practise”
- The biggest challenge is “people” and “organisations” (culture)
- There are many benefits to be realised from MSDI
- National Hydrographic Centre – the right agency to develop Marine SDI
 - Hydrography data - provides the fundamental backdrop
 - The IHO standards are aligned with ISO and OGC standards
 - ICT ready
 - Good governance through National Hydrographic Committee
- Marine SDI ready by end of 2018!

