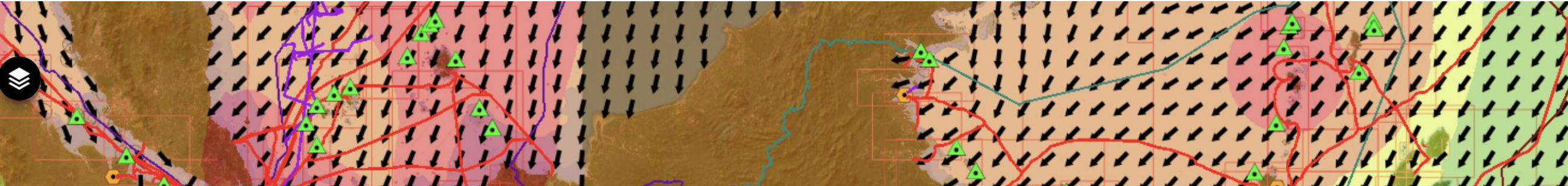
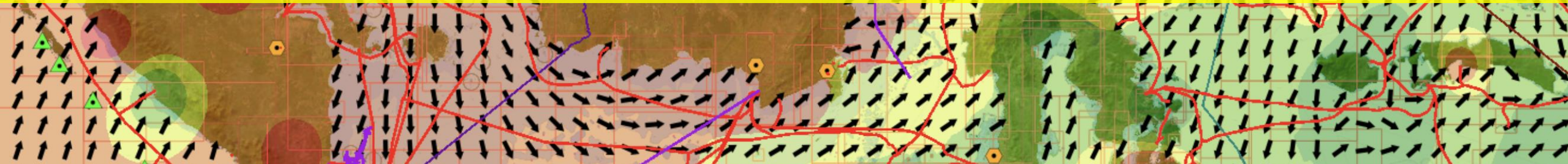




INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



INTERNATIONAL SEMINAR ON UNITED NATIONS GLOBAL GEOSPATIAL INFORMATION MANAGEMENT “effective and integrated marine geospatial information management”



“INTEGRATION OF MARINE SPATIAL DATA BETWEEN PUSHIDROSAL AND OTHER INSTITUTIONS”

Capt. Agus Sutrianto



INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



HYDROGRAPHIC OFFICES (HOS) SHOULD DEVELOP, SUPPORT, AND PROMOTE MARINE SPATIAL DATA INFRASTRUCTURES (MSDI)

Spatial Data Infrastructures
“The Marine Dimension”
Guidance for Hydrographic Offices

Edition 3.0.0 – October 2023

HYDROGRAPHIC OFFICES (HOS)

DEVELOP

- Portal Indonesian Hydrographic Data Centre (IHDC)
- 610 ENC as Basemap
- Tide Information
- Weather Information

SUPPORT

- Sharing Data with others Agency (thru Rest Service & API)

PROMOTE

- Others Data Spatial
- Others WMS

MSDI

Published by the
International Hydrographic Organization
4b quai Antoine 1^{er}
Principauté de Monaco
Tel: (377) 93.10.81.00
Fax: (377) 93.10.81.40
info@iho.int
www.iho.int



INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



World Hydrography Day in 2024
 "Hydrographic Information - Enhancing Safety,
 Efficiency and Sustainability in Marine Activities".

HYDROGRAPHIC INFORMATION USE FOR :

- PRIMARILY FOR NAVIGATION.
- MARITIME TRADE
- ENVIRONMENTAL PROTECTION
- SUSTAINABLE FISHING
- NATURAL RESOURCES
- INFRASTRUCTURE CONSTRUCTION
- DEFENCE
- SEARCH AND RESCUE
- SCIENTIFIC RESEARCH.



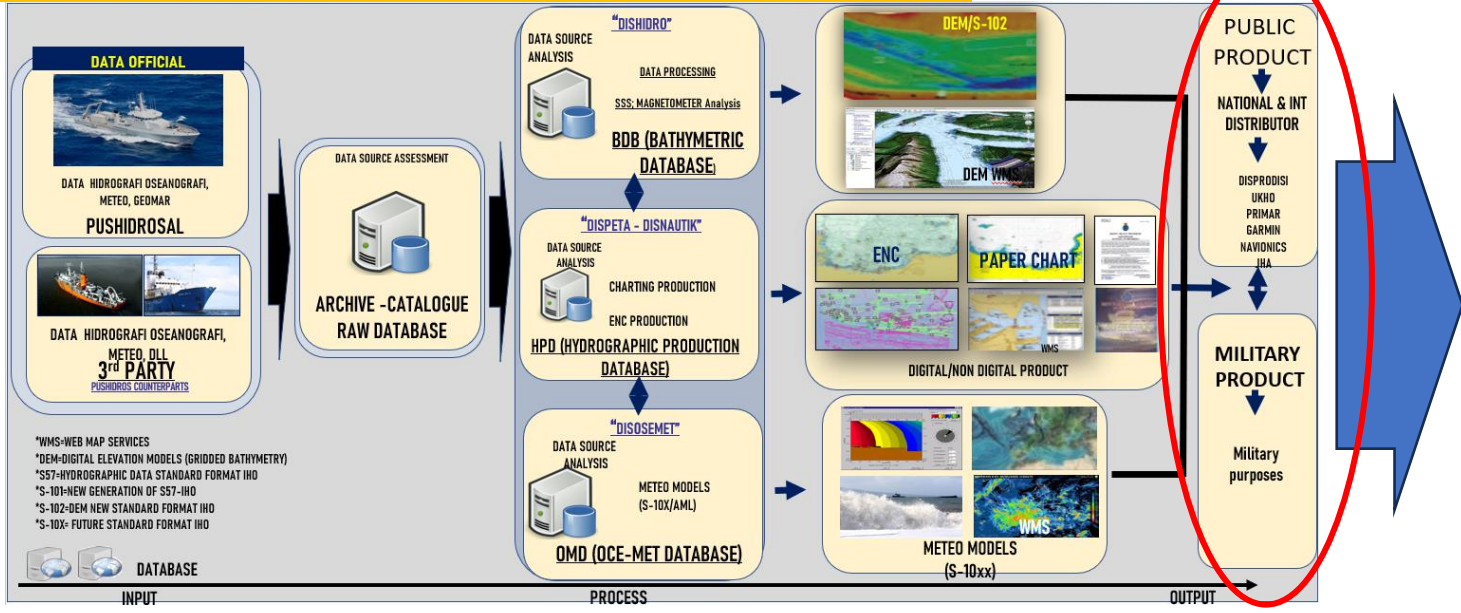


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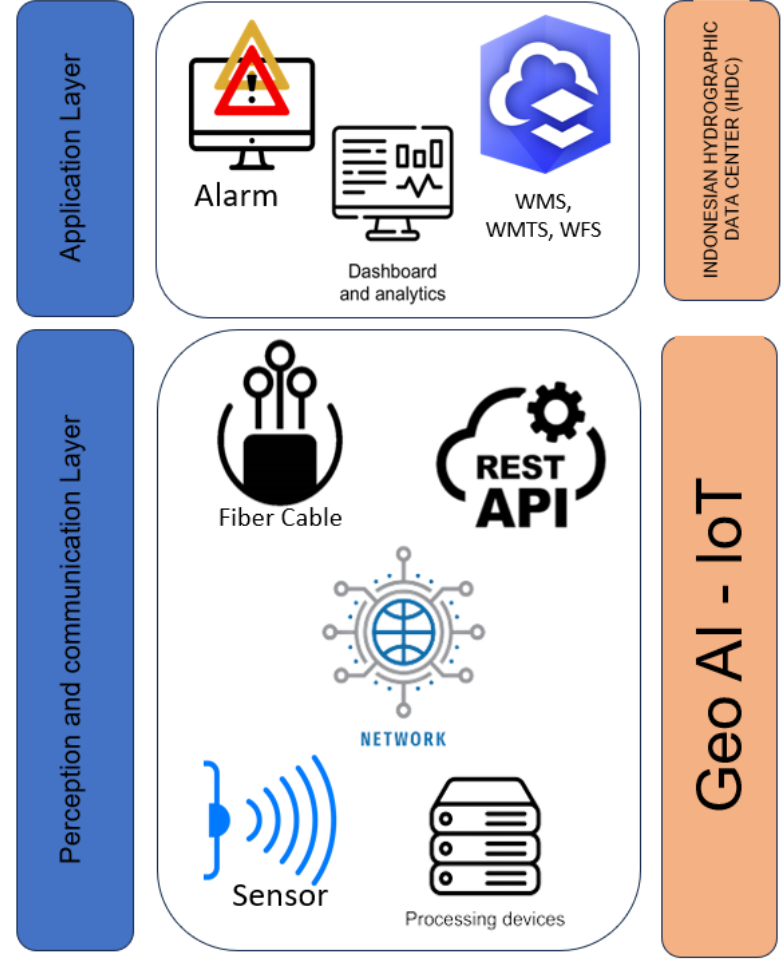


FLOWCHART OF HSI AND MSDI

Hydro Spatial Infrastructures



MSDI





INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



INDONESIAN HYDROGRAPHIC DATA CENTER (IHDC)

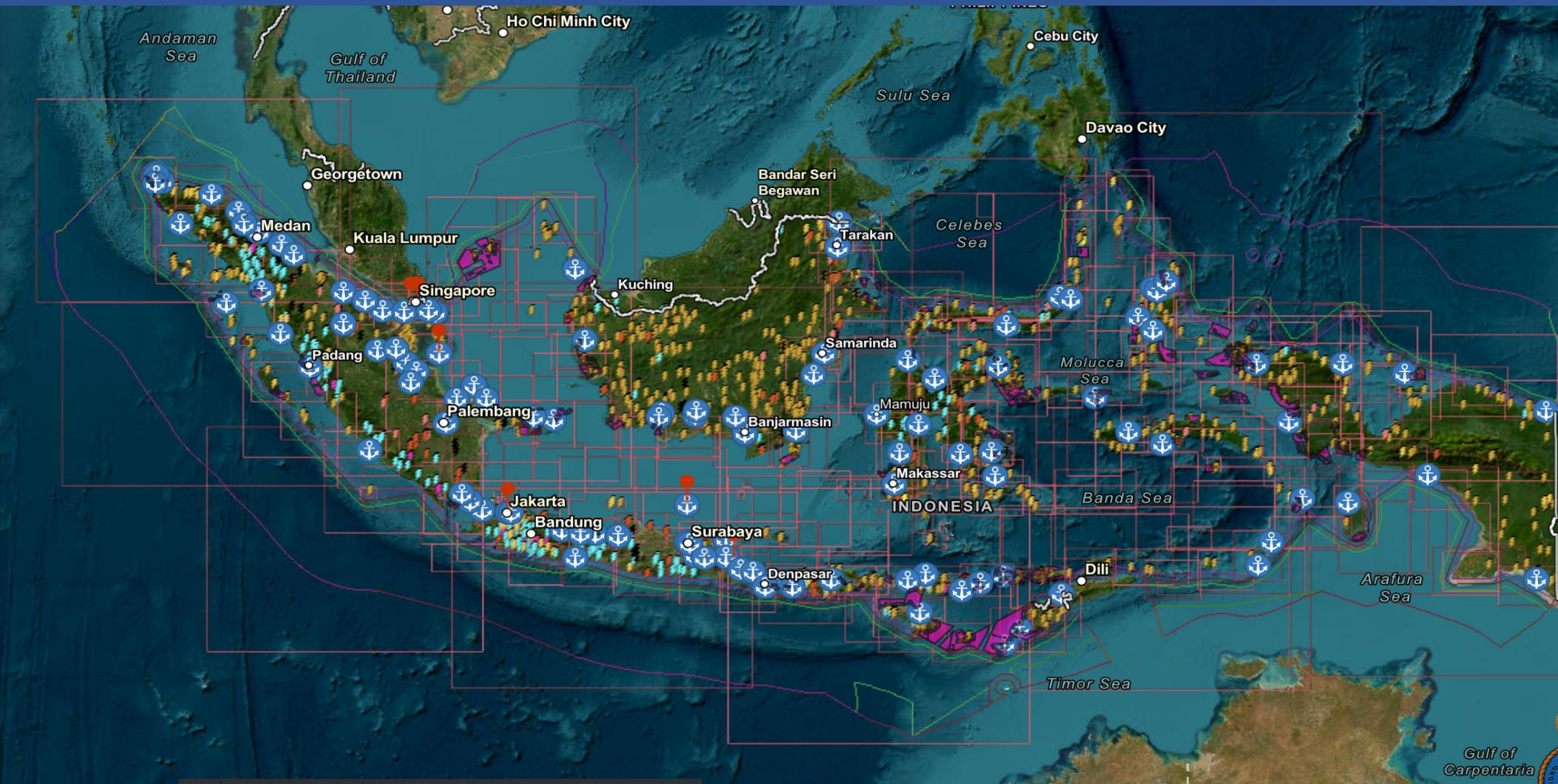
<https://ihdc.pushidrosal.id/e-navigasi/>

e-Navigasi PUSHIDROS TNI AL

Daftar Layer

Layer

- Kawasan Konservasi 2022
- st_pasut_realtime
- Infopel 2023
- Sebaran_Sedimen_Permukaan_Dasar_Laut
- Sebaran_Gravity_Core_Laut
- Pembangkit_Listrik
- Zona_Kerentanan_Likuefaksi
- Well_E
- KRB_Gunung_Api_Titik
- WilayahPertambangan
- Batas Maritim
- MAWS_PUSHIDROSAL
- Pulau NKRI
- Pasut BIG
- Landing_Point



300mi

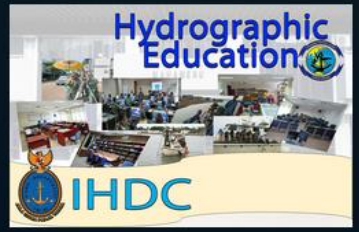
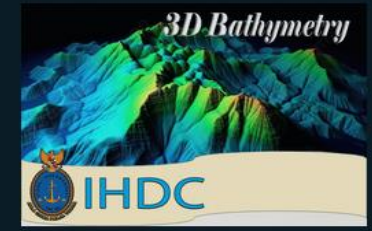




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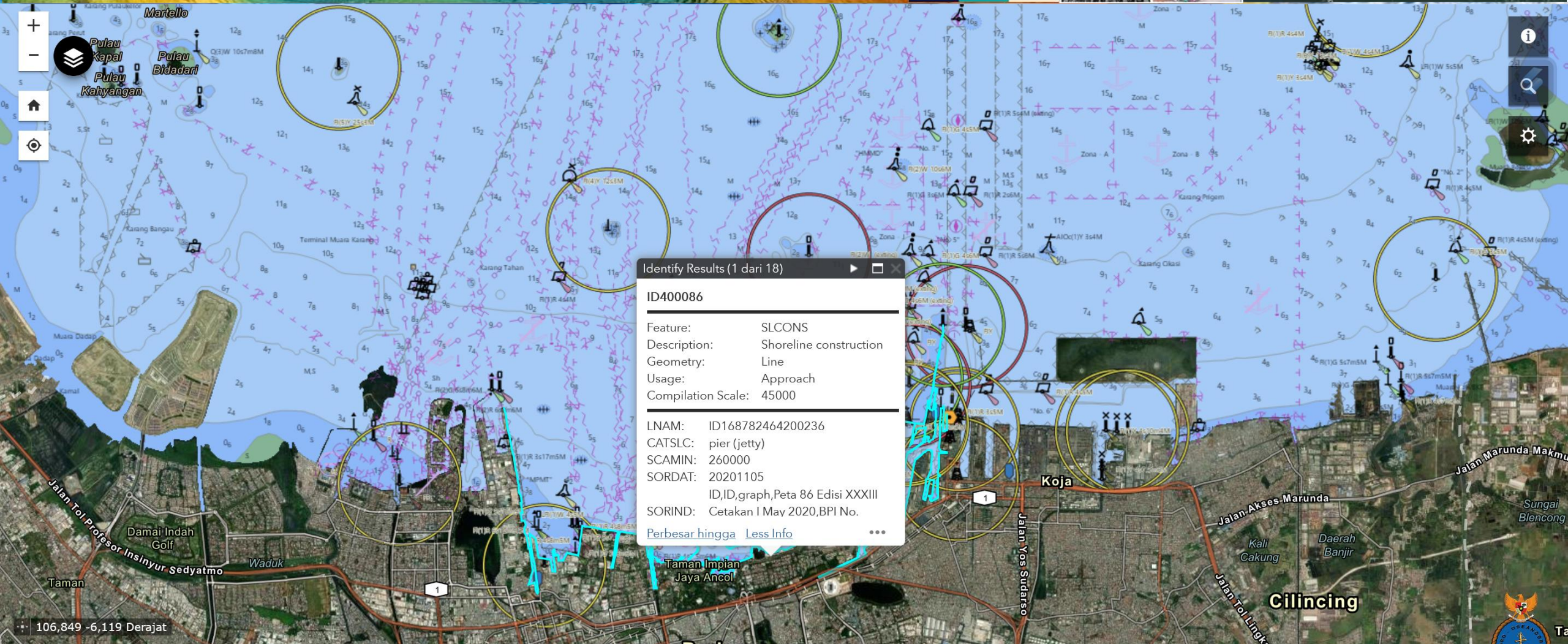


Galeri Aplikasi

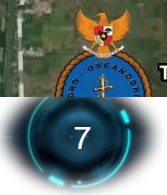




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106,849 -6,119 Derajat





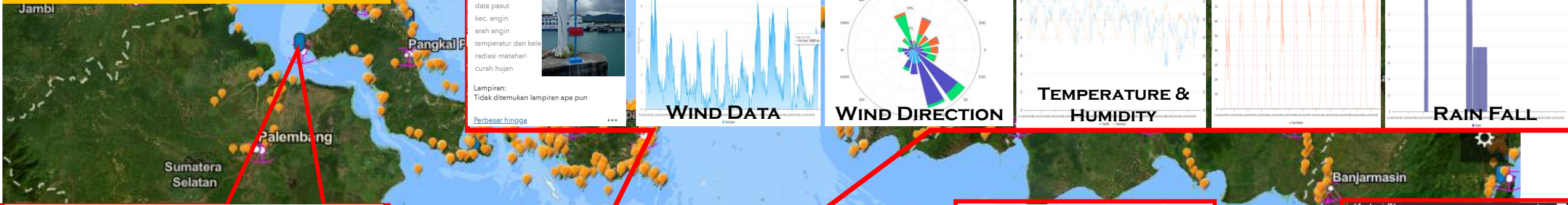
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E-NAVIGASI (BASEMAP ENC)

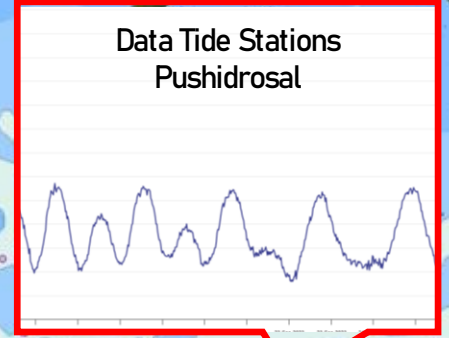
METEOROLOGI & OCEANOGRAPHY DATA REAL TIME

BASEMAP LAYER INFORMATION



Interoperability Data Tide Stations
Geospatial Information Agency

237 TIDES STATION collaborates at IHDC



(1 dari 2)

Data Real Time	
gempa_bmkg	BMKG
Tanggal	14 Apr 2023
Jam	16:55:44 WIB
DateTime_	Apr 14 2023 9:55AM
Coordinates	-6.29,111.92
Lintang	6.29 LS
Bujur	111.92 BT
Magnitude	6.6
Kedalaman	632 km
Wilayah	Pusat gempa berada di laut 68 km BaratLaut Tuban
Potensi	
Dirasakan	V Kuta, IV Karangates, IV
	Perbesar hingga More Info

National Team Of
Standardization Of Land
Gazetirs

-5,744 Derajat

60mi





INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



**BADAN INFORMASI
GEOSPASIAL**

INTEGRASI LAYER ENC PUSHIDROSAL



Sistem Informasi Pulau Masuk Daftar

Pengaturan Layer ×

- Toponim_Pulau
POI
- Batas Wilayah
Layer Standar
- ENC Pushidrosal**
Layer Standar
- Garis Pantai
Layer Standar

Tentang Layer Data
Anda dapat mengatur tampilan layer pada peta

Bandar Seri Begawan
BRUNEI DARUSSALAM
MALAYSIA
Kuala Lumpur

95.7531055741488 1.382322006899912 degree ©2023 Developed by Braga Technologies



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[badan informasi geospasial](#)

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INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



QR-SAR

- Beranda** NEW
- File Aktif
- Sebaran Operasi SAR NEW
- Publikasi Operasi SAR NEW

5

Kecelakaan
Ship Accident



Info Selanjutnya →

0

Kecelakaan
Udara



Airplane Accident
Info Selanjutnya →

7

Kondisi Dan
Membahayakan



Dangerous Conditions for
Human
Info Selanjutnya →

0

Kecelakaan
Penanganan



Special Handling Accident
Info Selanjutnya →


1

Tanggap Dar
pada Bencana



Emergency Response SAR
for Disaster
Info Selanjutnya →

File Aktif

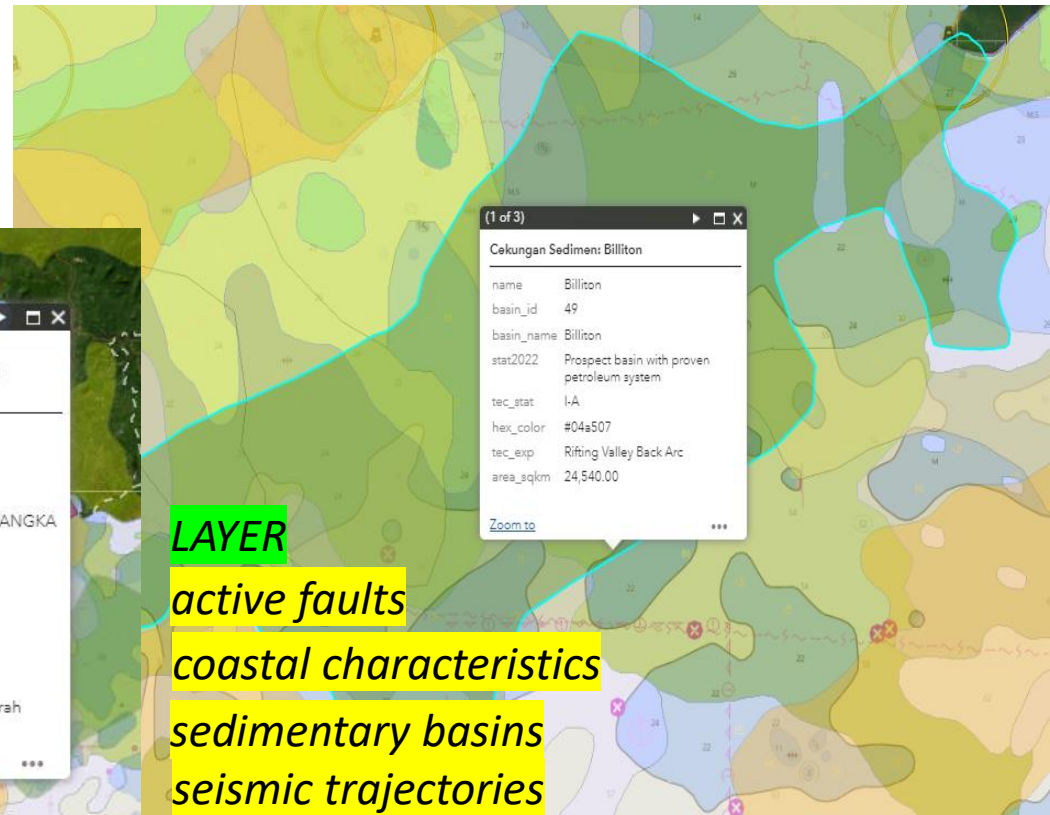
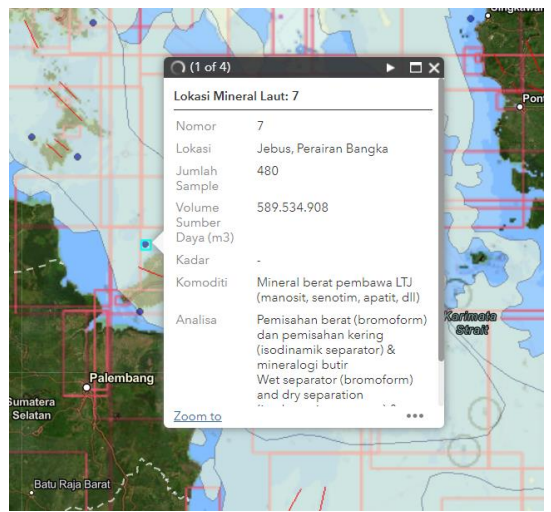
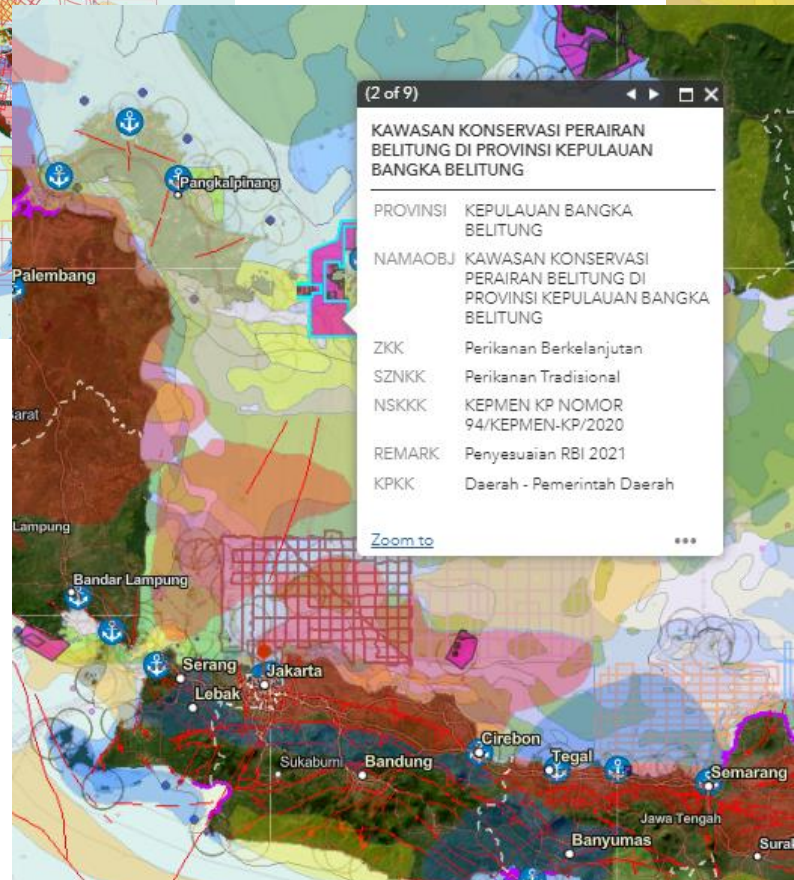
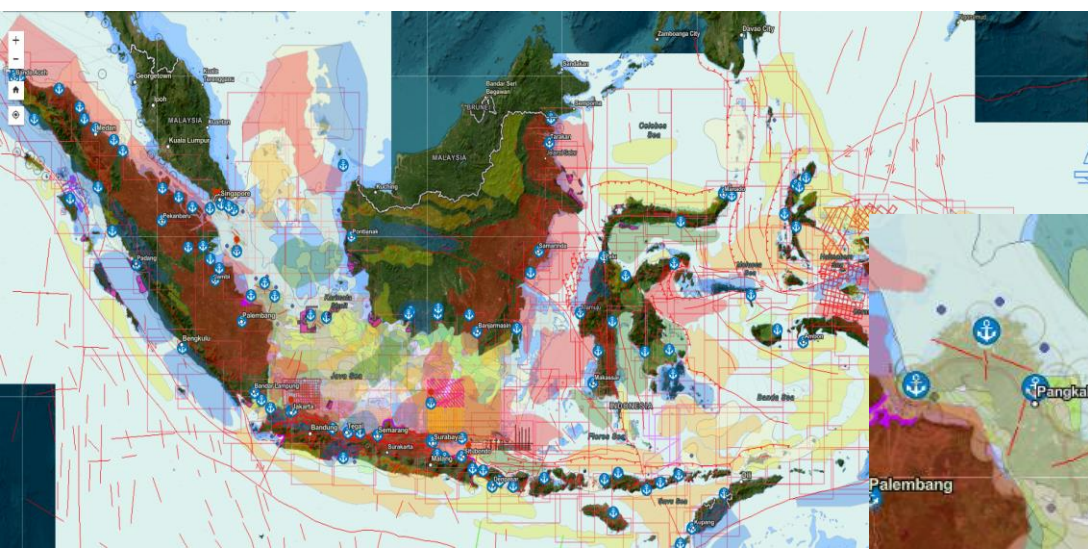


- Kuman Sakit
- Puskesmas
- Stasiun Pasut
- Garis Pangkal
- Batas Tertorial
- Batas ZEE
- Peta DISHIDROS
- ENC Indonesia
- Arah Gelombang
- Arah Angin
- Stasiun Pasut Real Time
- Batas Maritim Indonesia

Leaflet | Powered by Esri | Esri, HERE, Garmin, FAO, NOAA, USGS



Interoperability Data With Ministry of Energy and Mineral Resources of the Republic of Indonesia



LAYER

active faults

coastal characteristics

sedimentary basins

seismic trajectories

distribution of marine gravity cores

distribution of seabed surface sediments

potential marine minerals



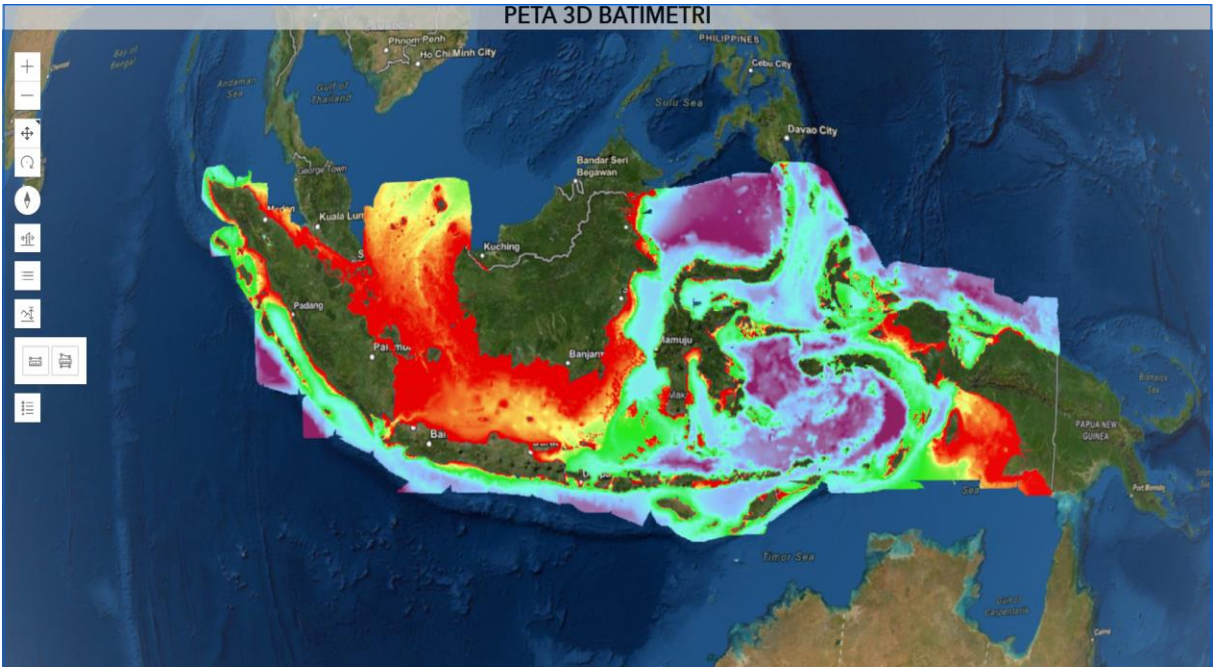
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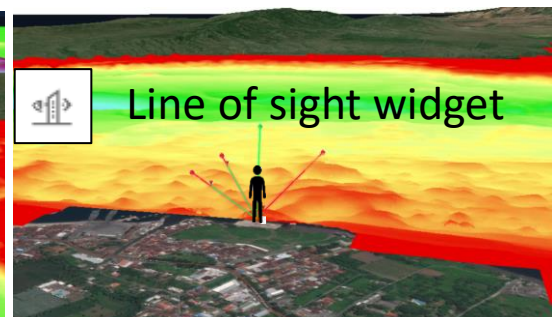
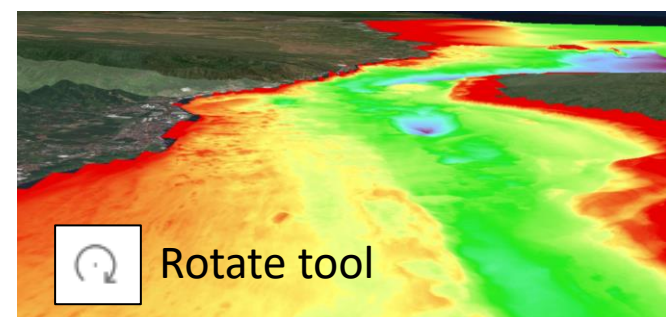
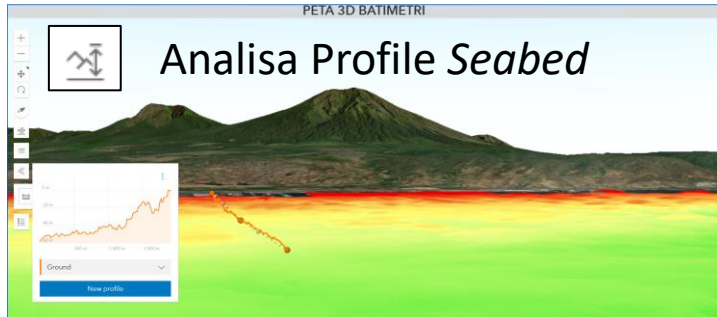
3D Bathymetry

As a support for preliminary analysis of subsea bottom profile, for the support of water bottom profile information (for example, advanced analysis of anchoring point of lading cable at sea, with sea bottom profile up to landing to Beach Main Hole (BMH).

TOOL BARS 3D Bathymetry



- Zoom in
- Zoom out
- Pan tool
- Rotate tool
- Compass
- Line of sight widget
- Expand (Layer)
- Analisa Profile Seabed
- Measurement Distance between 2 point
- Measurement Area
- Profil Bathymetry





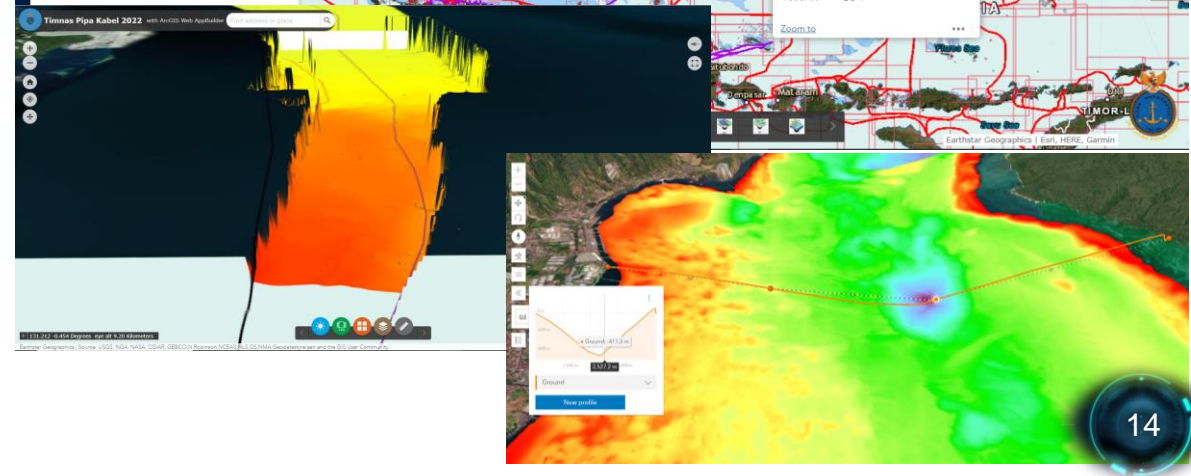
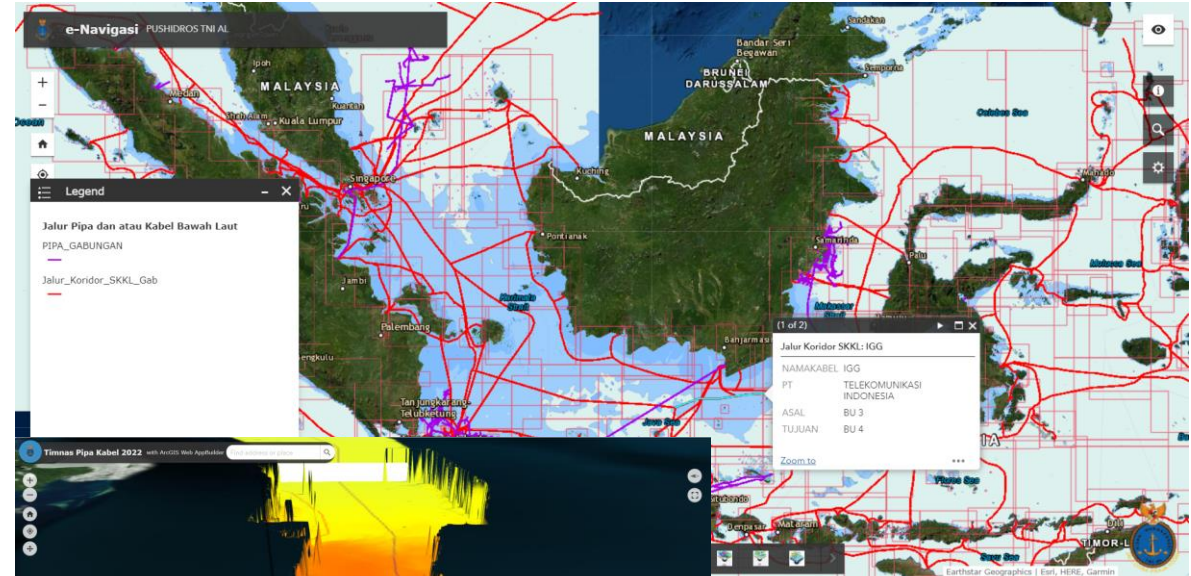
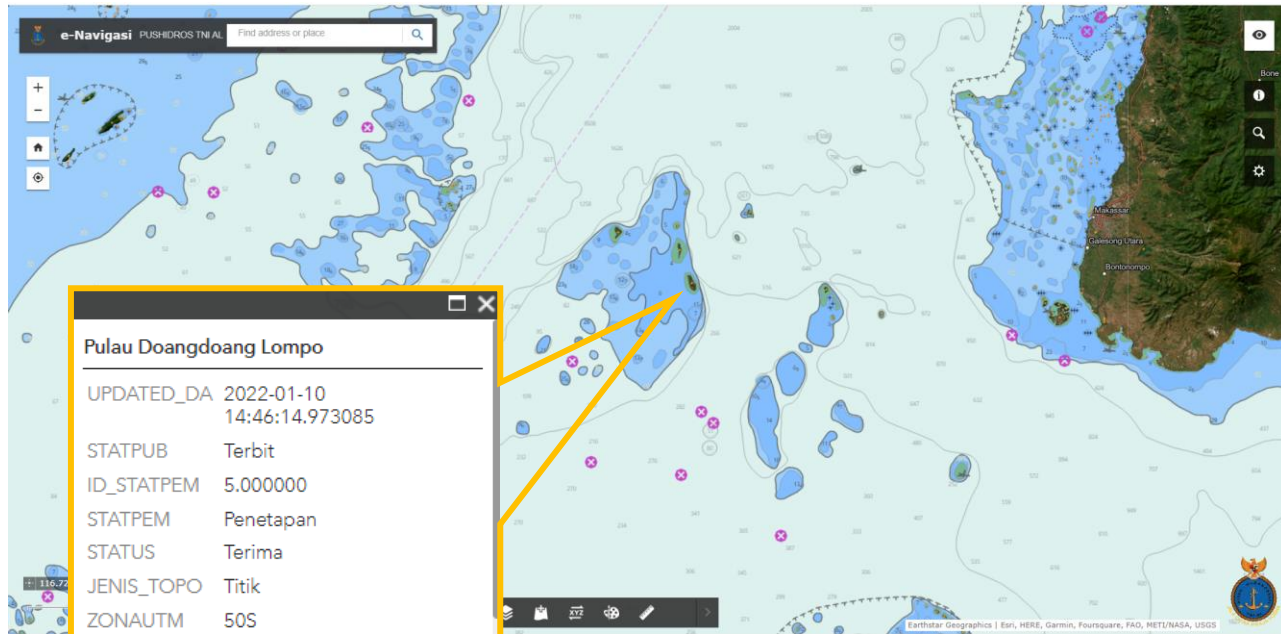
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STATIC DATA

NATIONAL TEAM OF STANDARDIZATION OF LAND GAZETIRS

NATIONAL TEAM OF UNDER WATER PIPE AND CABLE

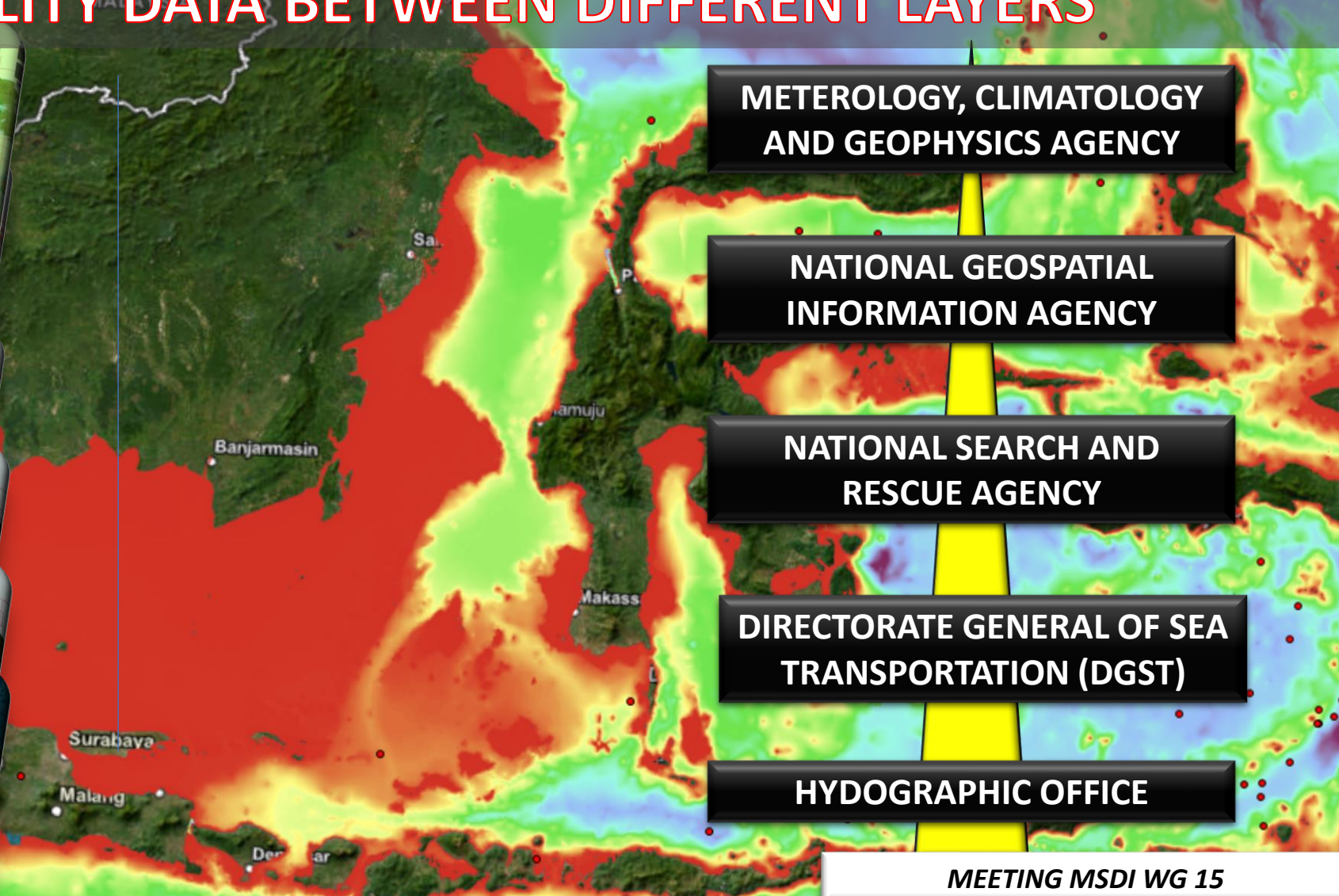




INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



INTEROPERABILITY DATA BETWEEN DIFFERENT LAYERS



**METEROLOGY, CLIMATOLOGY
AND GEOPHYSICS AGENCY**

**NATIONAL GEOSPATIAL
INFORMATION AGENCY**

**NATIONAL SEARCH AND
RESCUE AGENCY**

**DIRECTORATE GENERAL OF SEA
TRANSPORTATION (DGST)**

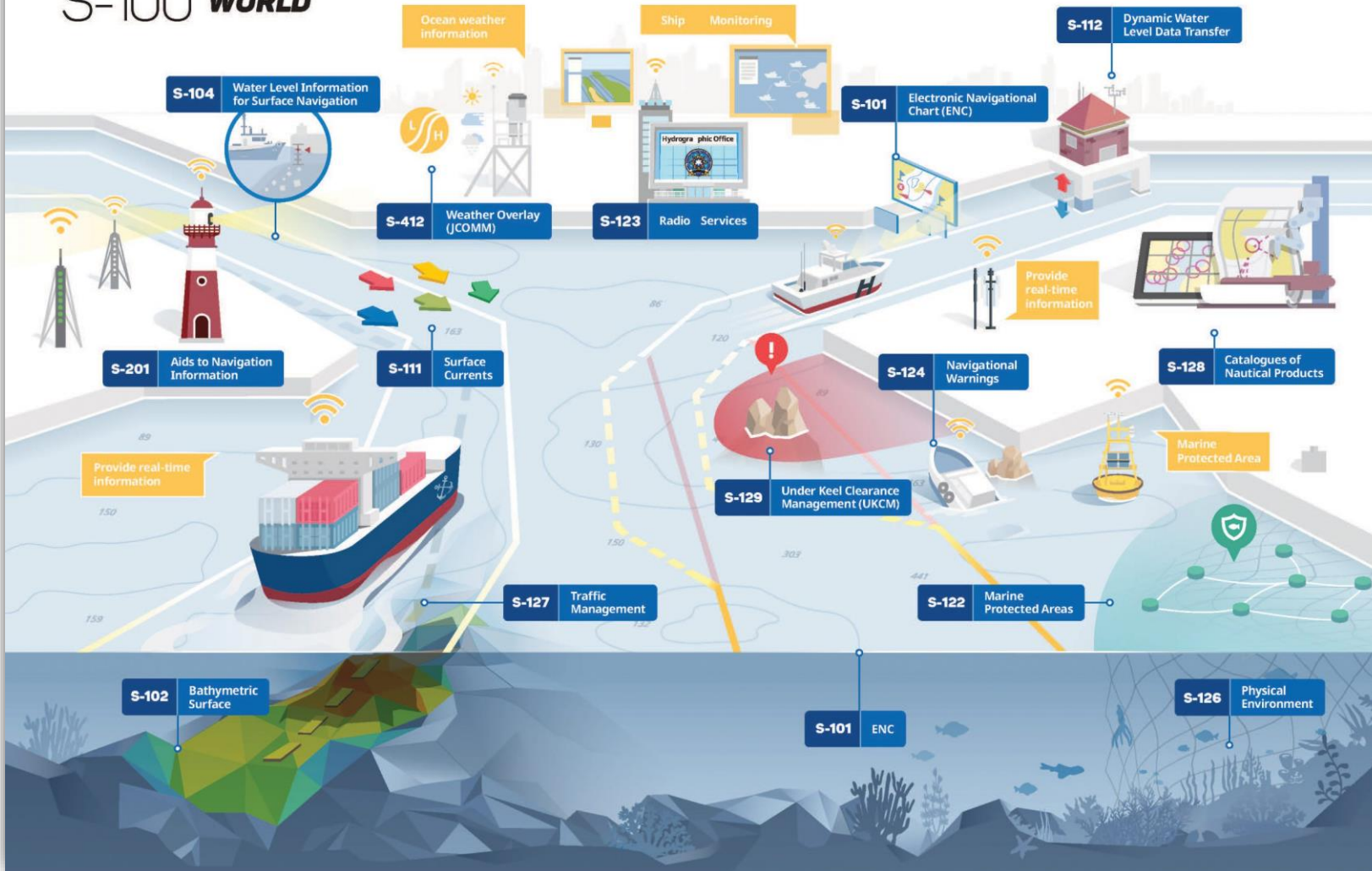
HYDROGRAPHIC OFFICE



INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



S-100 WORLD



Roadmap for the S-100 Implementation Decade (2020 – 2030)

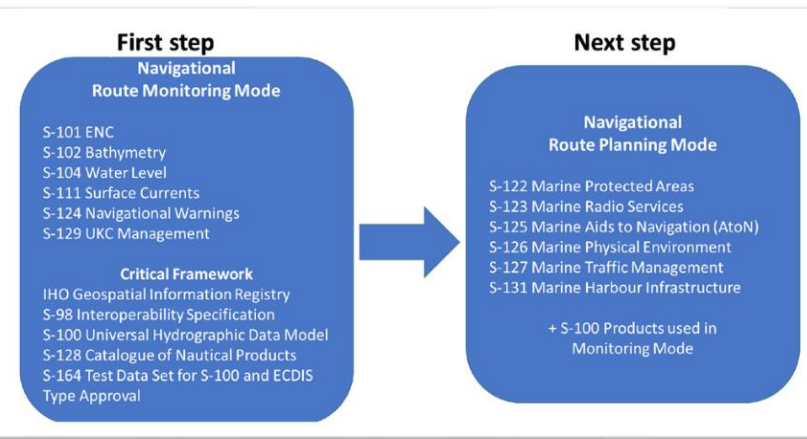
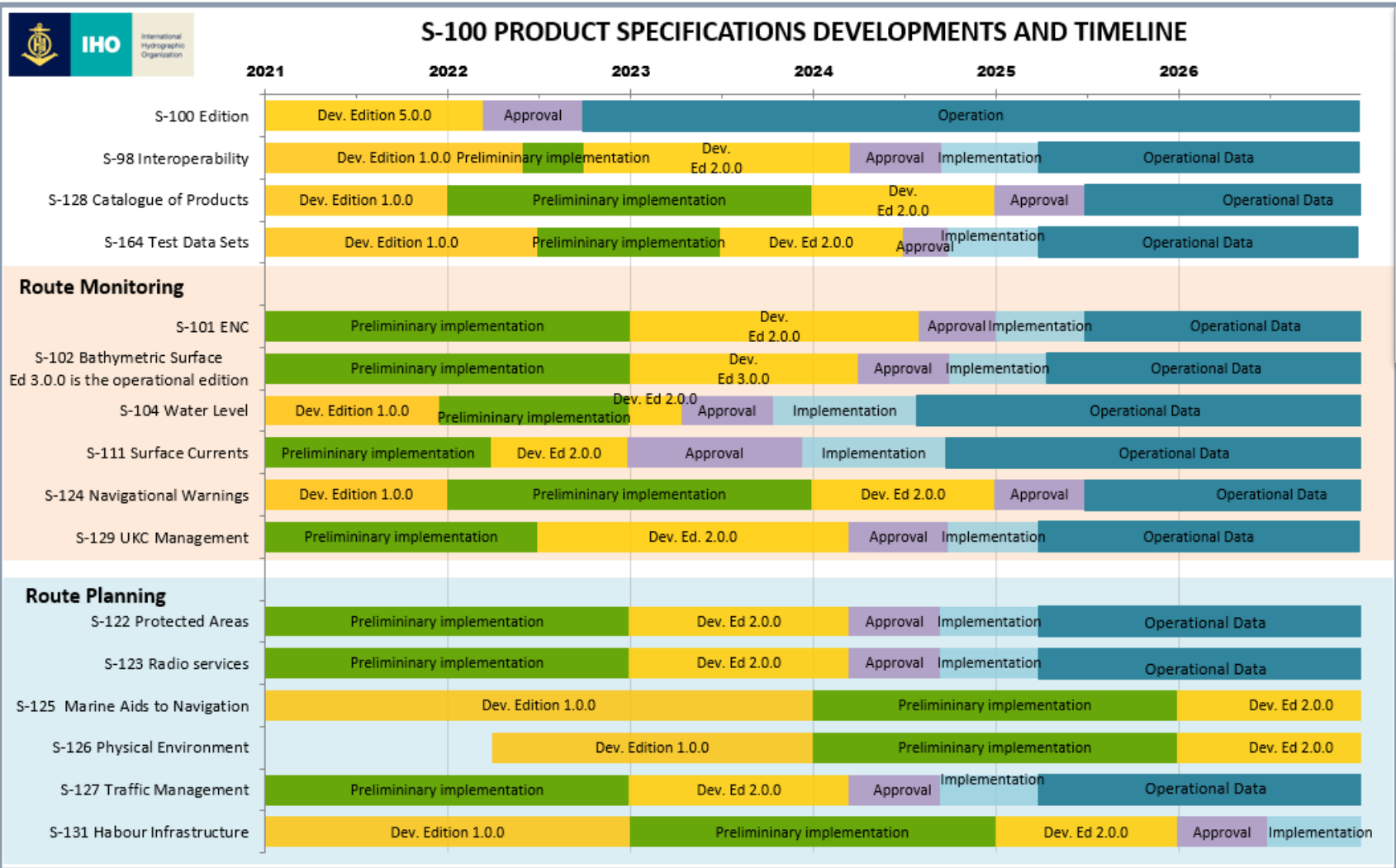
The S-100 Implementation Priorities

Table A – IHO list of S-100 products with special focus

First step – Route monitoring mode	
S-101	Electronic Navigational Chart (ENC)
S-102	Bathymetric Surface
S-104	Water Level Information for Surface Navigation
S-111	Surface Currents
S-124	Navigational Warnings
S-129	Under Keel Clearance Management
Critical Framework	
	IHO Geospatial Information Registry
S-98	Interoperability Specification
S-100	Universal Hydrographic Data Model
S-128	Catalogue of Nautical Products
S-164	Test Data Set for S-100 and ECDIS Type Approval
Second step – Route planning mode	
S-122	Marine Protected Areas
S-123	Marine Radio Services
S-125	Marine Aids to Navigational (AtoN)
S-126	Marine Physical Environment
S-127	Marine Traffic Management
S-131	Marine Harbour Infrastructure



S-100 TIMELINE FOR THE PRIORITIZED IHO PRODUCT SPECIFICATIONS





INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



Data Sources from other Agencies for the S-100 data series



S-111 Surface Currents

**METEROLOGY, CLIMATOLOGY
AND GEOPHYSICS AGENCY
(BMKG)**

S-104 Water Level Information
 S-102 Bathymetric Surface

**NATIONAL GEOSPATIAL
INFORMATION AGENCY (BIG)**

S-124 Navigational Warnings

**NATIONAL SEARCH AND
RESCUE AGENCY (BASARNAS)**

S-124 Navigational Warnings
 S-129 Under Keel Clearance Management
 S-123 Marine Radio Services
 S-125 Marine Aids to Navigational (AtoN)

**DIRECTORATE GENERAL OF SEA
TRANSPORTATION (DGST)**

S-101 Electronic Navigational Chart (ENC)
 S-102 Bathymetric Surface
 S-104 Water Level Information
 S-122 Marine Protected Areas

**HYDROGRAPHIC OFFICE
(PUSHIDROSAL)**



INDONESIAN NAVY HYDRO-OCEANOGRAPHIC CENTER (PUSHIDROSAL)



Thank You!

