

# 13th MEETING OF THE IHO MARINE SPATIAL DATA INFRASTRUCTURES WORKING GROUP

## IHO MSDI WG13

Hybrid – Singapore, 9 – 13 May 2022

**IHO strategic plan.**

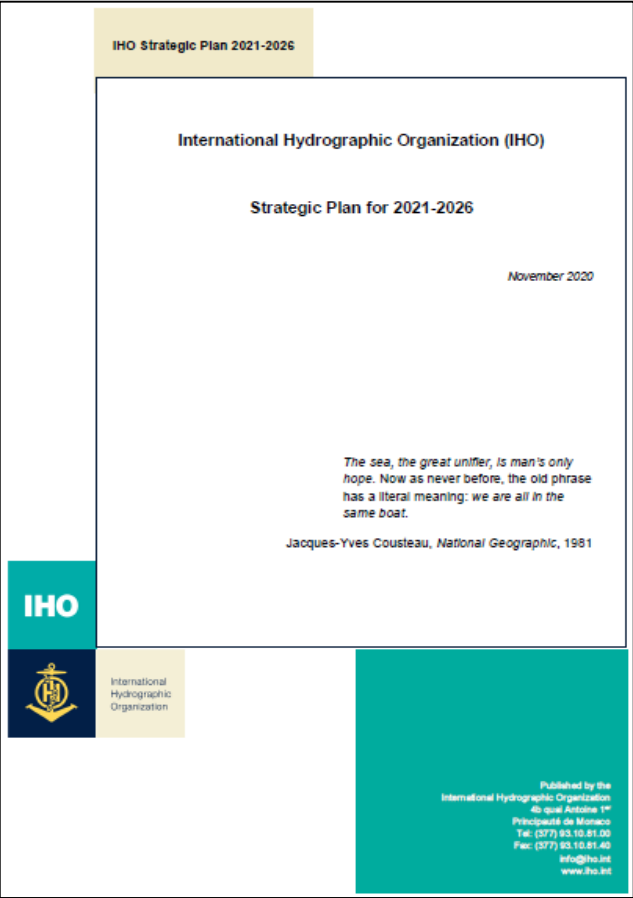


# The IHO Strategic Plan

The IHO Strategic Plan for 2021-2026 is structured through three overarching goals, focusing the exercise of its mission during this period. **Goal 2 is increasing the use of hydrographic data for the benefit of society.** In order to fulfill goal 2 there is established Strategic performances indicators (SPI). SPI 2.1 Build a portal to support and promote regional and international cooperation in marine spatial data infrastructures (MSDI).

The above mentioned SPI 2.1 has special relevance for the MSDIWG, and the MSDIWG has included this goal in the Draft work plan in order to deliver on this goal.

At the 13th meeting of the IHO INTER-REGIONAL COORDINATION COMMITTEE IHO-IRCC13 the MSDIWG work plan was approved. The idea is to investigate the different operational and technical possibilities for establishing a MSDI portal and to gather information about the user needs and evaluate IHO MS user needs before a proposal about a portal is sent to IRCC for approval.



- Goal 1: Evolving the hydrographic support for safety and efficiency of maritime navigation, undergoing profound transformation.
- Goal 2: Increasing the use of hydrographic data for the benefit of society.
- Goal 3: Participating actively in international initiatives related to the knowledge and the sustainable use of the Ocean.

Strategic Performance Indicators (SPI)

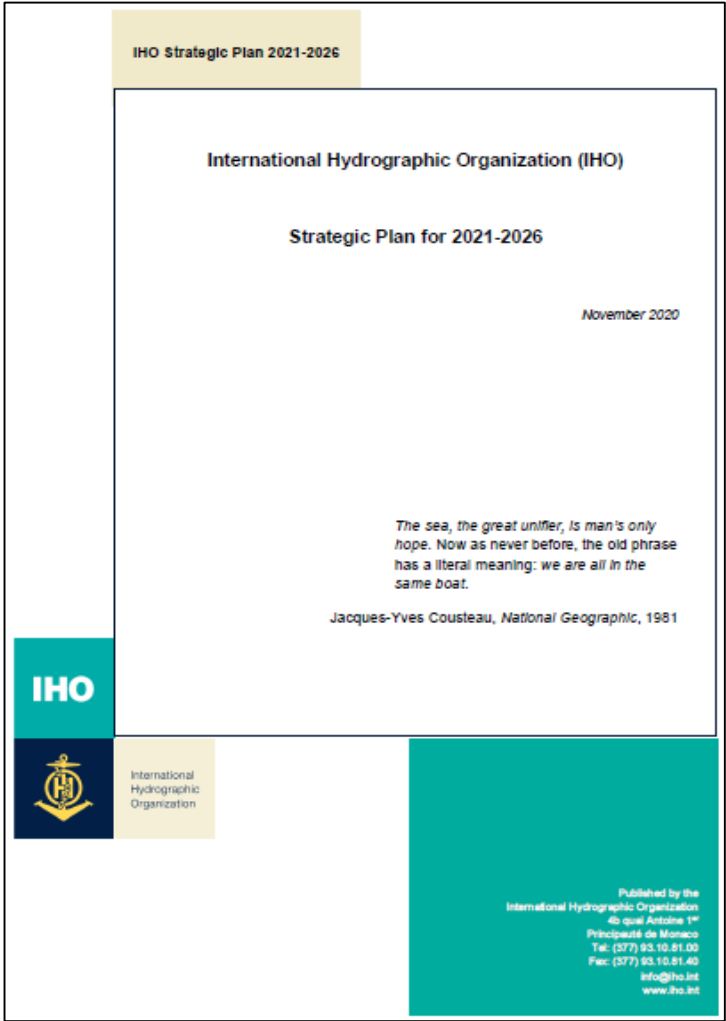
Targets	SPI (measure for success)	Comments <sup>2</sup>
Goal 1: Evolving the hydrographic support for safety and efficiency of maritime navigation, undergoing profound transformation		
1.1 Deliver standards for hydrographic data and specifications of hydrographic products; support their regular production; and coordinate regional and global services for their provision.	1.1.1 Percentage of Member States having operationalized production and distribution of hydrographic data products and services based on IHO Universal Hydrographic Data Model (S-100), under an implementation framework of coordination and agreed timelines (2026: 100%). 1.1.2 Number of hydrographic data products and services based on Universal Hydrographic Data Model that cater for the new requirements: autonomous shipping, reduction of emission.	1.1.1 Percentage of MS currently (2019) providing digital products
1.2 Develop standards, specifications and guidelines in the areas of data assurance, including cyber security and data quality assessment.	1.2.1 Percentage of hydrographic data products and services based on S-100 model that are covered by IHO standards, specifications and guidelines on cyber security (2026: 100%). 1.2.2 Percentage of navigationally significant areas (e.g. charted traffic separation schemes, anchorages, channels) for which the adequacy of the hydrographic knowledge is assessed through the use of appropriate quality indicators (2026:100%).	1.2.2 Calculation method to be consistent with C55 calculation
1.3 Use capacity building and training to develop and increase the ability of Member States to support safety and efficiency of maritime navigation.	1.3.1 Ability and capability of Member States to meet the requirements and delivery phases of the S100 implementation plan (2026: 50%).	
	increase coverage, consistency, quality of surveys in poorly surveyed areas.	Hydrographic Surveys (S-44)
	2.3 Apply UN shared guiding principles for geospatial information management in order to ensure interoperability and extended use of hydrographic data in combination with other marine-related data.	2.3.1 Number of HOs reporting success applying the principles in their national contexts (2026: 70%).
		3.3 Implement a comprehensive IHO digital communication strategy in order to enhance its visibility and accessibility to its work
		3.3.1 Number of visits, likes, re-postings, etc. associated to the IHO social media sites. 3.3.2 Volume downloaded from the IHO website and Geographical Information System (GIS).

	Comments <sup>2</sup>
	2.1.1 Monitoring will be based on the increase of the value of the indicator and assessment of its significance
	2.2.1 See C-55 2.2.2 Success of new edition of S-44 assessed from its applications to new fields

	Comments <sup>3</sup>
ble use of the Ocean	
marine safety on MSI (2026 90%).	
for Digital Bathymetry ic offices. int for ingestion into the	3.2.1 & 3.2.2 Monitoring will be based on the increase of the value of the indicators, and assessment of its significance 3.2.3 Measured annually and reported through regional hydrographic commission to IRCC and the regional Seabed 2030 coordination centers
	See above

# A practical example on how MSDI (GIS) can support measuring SPI.

## IHO Strategic Plan for 2021-2026.



## IHO Publication C-55.





## A practical example on how MSDI can support measuring SPI.

**IHO Publication C-55 – in the paper version (528 p.).**

## IHO Publication C-55 – in a digital format.



INTERNATIONAL HYDROGRAPHIC ORGANIZATION

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

ORGANIZACION HIDROGRAFICA INTERNACIONAL



## IHO/OHI Publication C-55

**Status of Hydrographic Surveying and Charting Worldwide**  
*Etat des levés hydrographiques et de la cartographie marine à travers le monde*  
*Estado de los Levantamientos Hidrográficos y de la Cartografía Náutica a nivel mundial*

2 March / mars / marzo 2022

Published by the International Hydrographic Organization  
Publié par l'Organisation hydrographique internationale  
Publicado por la Organización Hidrográfica Internacional

## MONACO

Catégorie d'implémentation		Statut		Notes	
Mise en œuvre du DSDM/Implémentation CANSIM		Statut	Fin	Notes	Notes
	Mieux plus		YES		
	Plus cadre		YES		
	Plus personnel		YES		
	AI sans				
	Zone AI		NO		
	Zone AI				
	AI sans				
	Zone AI		YES		
	Zone AI				
	AI sans				
	Zone AI		NO		
	Zone AI				
	NAVTEX				
	NAVTEX		YES		
	NAVTEX				
	Safety NET				
	Safety NET				
	Safety NET		NO		

Martime Safety Information / Resurreccions sobre la seguretat marítima / Información sobre seguridad marítima	Status / Estatut / Estado	Notes / Notes / Notas
Navigation Information / Información náutica / Información náutica	YES	Notes / Notes / Notas
Local warnings / Advertencias locales / Advertencias locales	YES	Kalaallit Nunaat Radio (KNR) / Local warnings by Aasiat Radio VIII. Arctic web: <a href="http://arcticweb-test.e-navigation.net/">http://arcticweb-test.e-navigation.net/</a>
Coastal warnings / Advertencias costeras / Advertencias costeras	YES	Navigation warnings by Aasiat Radio MF. NAVTEX via Greenland and Iceland.
NAVAREA / NAVAREA / NAVAREA	NO	Navarea I, IV, XIX and XVIII. Coordinators
Information on ports and harbours / Información sobre los puertos y radares / Información sobre los puertos y radares	YES	Danish Notice to Mariners (EIS).

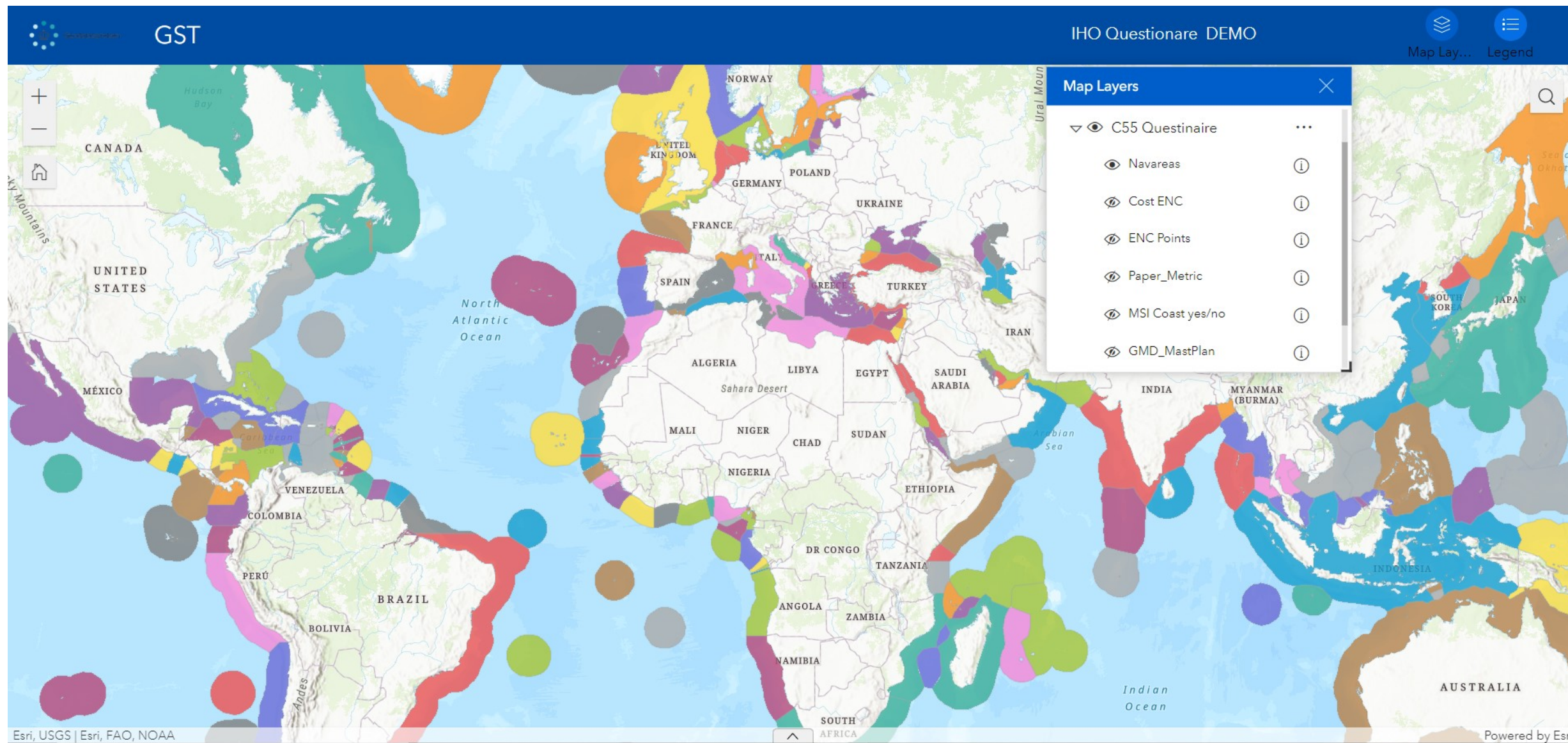
Last update / Mise à jour / Actualización: 26/10/2002

[illegible]

102. 2. Chart Coverages were divided based on the minimum scale of each chart.  
103. 1. "Passage" comprised of charts from 1:150 000 and above, "Coastal" comprised of charts ranging from 1:50 000 - 1:150 000, "Port" comprised of charts 1:50 000 and below.  
104. 2. ENC, DNC and NT chart coverages were extracted April 13, 2019.  
105. 3. The high proportion of inadequate surveying was predominantly due to the large area of Arctic waters that are un-surveyed or covered by frontier surveys only.  
106. 4. Ecosystem, climate change and resource development are increasing demand for surveys in Arctic and frontier areas.  
107. 5. Satellite data were sourced to be used in the calculation of aquat charting referenced to a satellite datum, "W", "S", "3", "6", "14", "32", "49", "1". Regional Boundaries (Canada-Atlantic, Canada-Pacific, Canada-Arctic and Canada-Inland Waters) were divided based on the regional boundaries from the International Hydrographic Organization (IHO) S-30.0, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 26

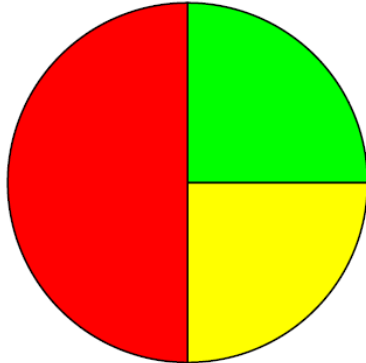
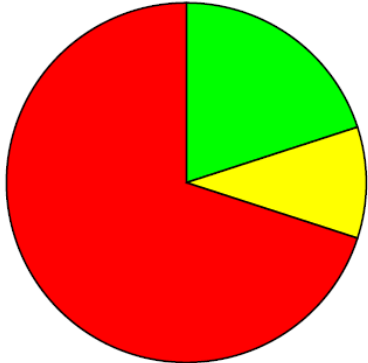


# Navarears used in IHO Publication C-55 – visualized in GIS (same system/software as IHO into GIS)



Denmark - Greenland - INT Region D (D)

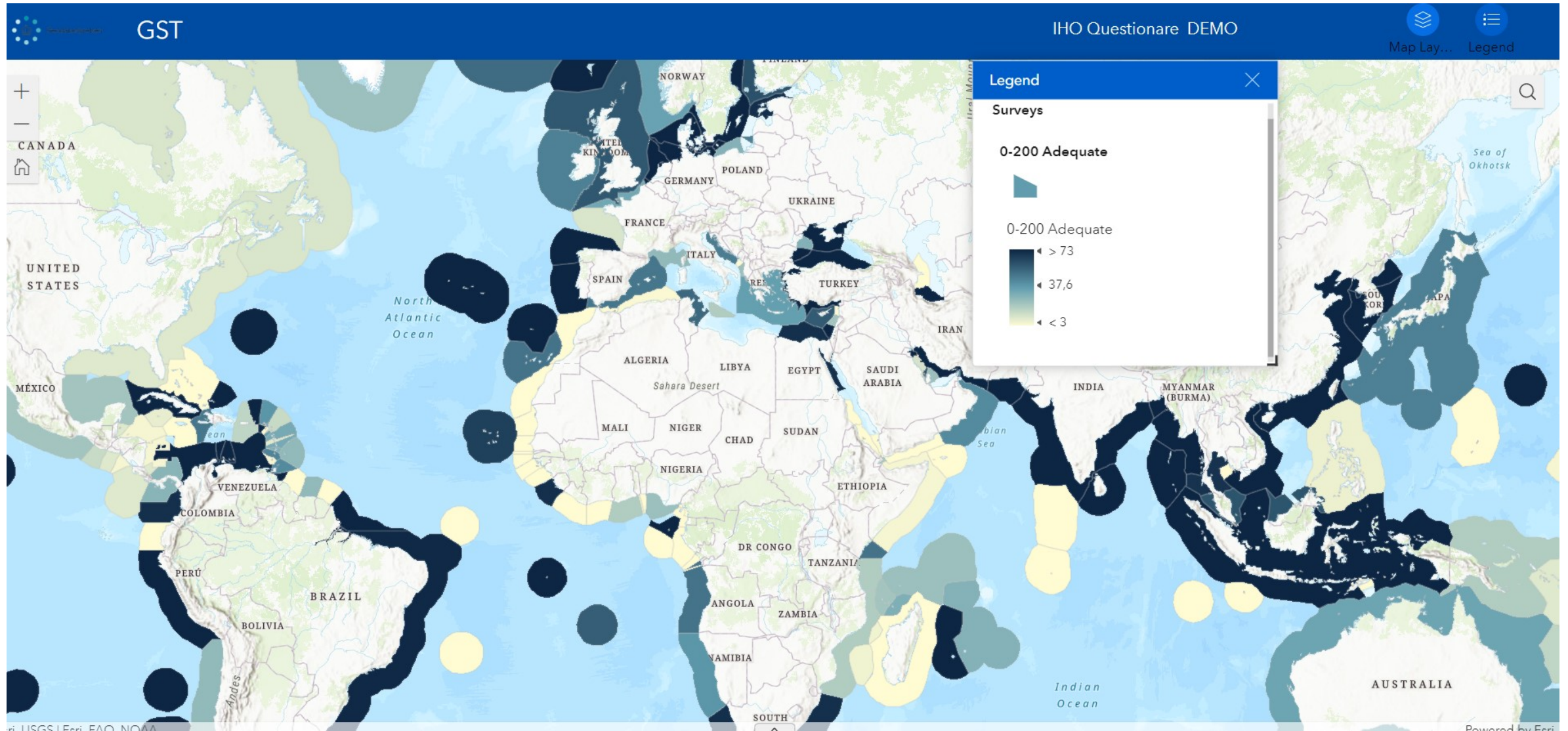
Hydrographic surveying / Levés hydrographiques / Levantamientos hidrográficos

Survey coverage Couverture hydrographique Cobertura hidrográfica		Depth < 200m Profondeur < 200m Profundidad < 200m			Depth > 200m Profondeur > 200m Profundidad > 200m		
<div><div></div><div>%</div></div> <div>Adequately surveyed Correctement hydrographié Adecuadamente levantado</div> <div><div></div><div>%</div></div> <div>Re-survey required Nécessitant de nouveaux levés Requiere nuevo levantamiento</div> <div><div></div><div>%</div></div> <div>Never systematically surveyed Jamais hydrographié systématiquement Nunca levantado sistemáticamente</div>		25	25	50	20	10	70
							
Notes Notes Notas	The coastline of Greenland is very complex and the total sea area of the EEZ is ca. 2.000.000 square kilometres. Due to permanent ice cover, the limit for navigable waters has been set to 75 degrees northern latitude. Thus the percentages are rough approximations. The East coast is sparsely populated and only surveyed near populated areas. A prioritised programme is in force to resurvey navigable routes to and between populated areas on the West Coast of Greenland, to modern standards.						



# Hydrographic surveying, Survey coverage in IHO Publication C-55 – visualized in GIS (same as IHO Into GIS)

Overview. Adequate surveyed between 0 and 200 meters in %, shown in different colors.



IHO

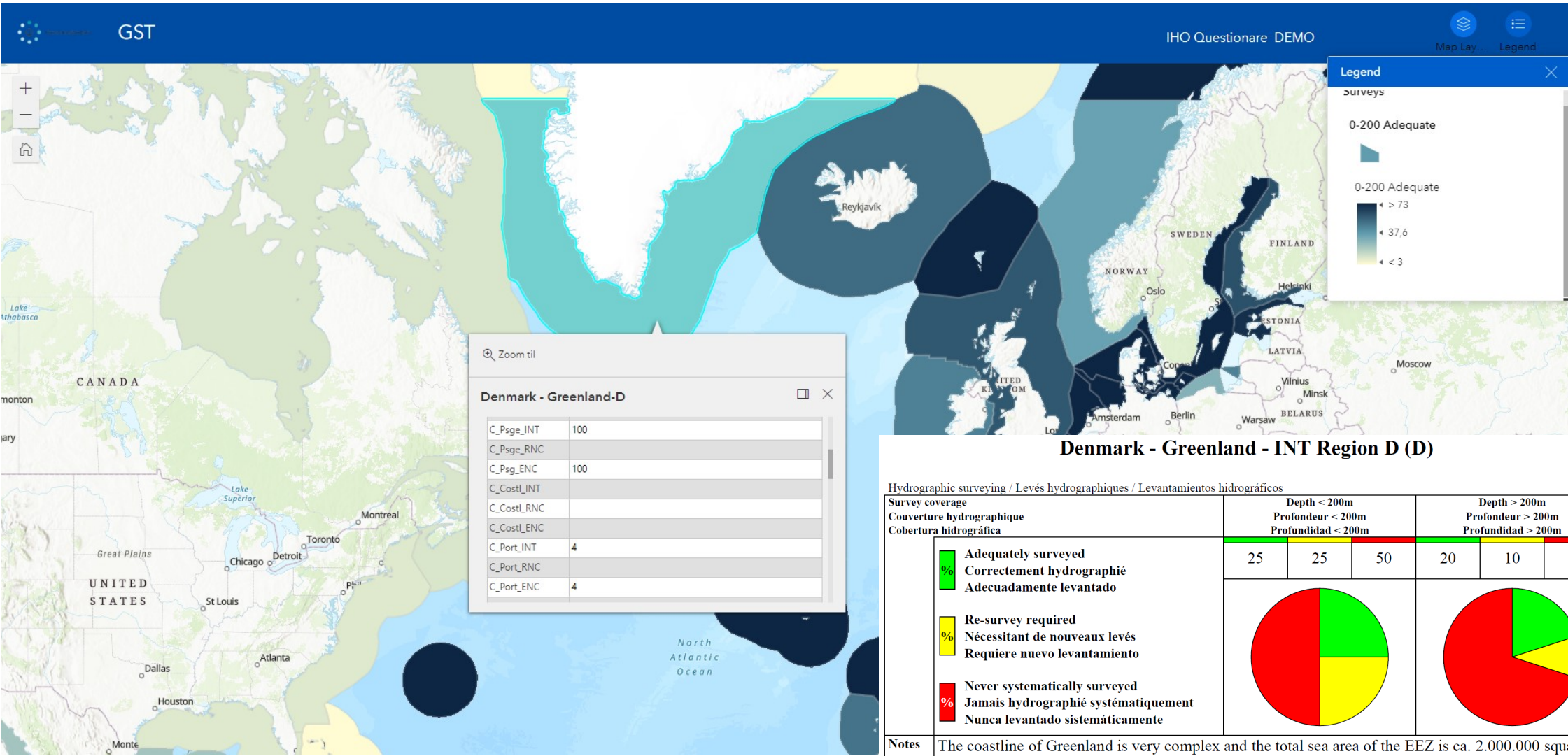
International  
Hydrographic  
Organization

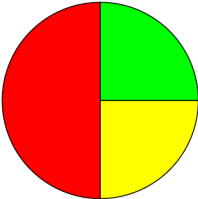
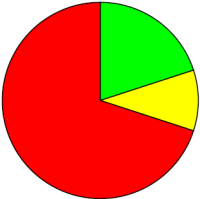


MSDIWG13.20

# Hydrographic surveying, Survey coverage in IHO Publication C-55 – visualized in GIS (same as IHO Into GIS)

Detailed information available of all arears.



Denmark - Greenland - INT Region D (D)							
Hydrographic surveying / Levés hydrographiques / Levantamientos hidrográficos							
Survey coverage Couverture hydrographique Cobertura hidrográfica		Depth < 200m Profondeur < 200m Profundidad < 200m			Depth > 200m Profondeur > 200m Profundidad > 200m		
<div><div></div><div>Adequately surveyed Correctement hydrographié Adecuadamente levantado</div></div> <div><div></div><div>Re-survey required Nécessitant de nouveaux levés Requiere nuevo levantamiento</div></div> <div><div></div><div>Never systematically surveyed Jamais hydrographié systématiquement Nunca levantado sistemáticamente</div></div>		25	25	50	20	10	70
							
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Maritime Safety Information / Renseignements sur la sécurité maritime / Información sobre seguridad marítima

<b>GMDSS implementation</b> <b>Mise en œuvre du SMDSM</b> <b>Implementación SMSSM</b>	<b>Status</b> <b>Status</b> <b>Estado</b>	<b>Notes</b> <b>Notes</b> <b>Notas</b>
Master plan Plan cadre Plan principal	YES	
A1 area Zone A1 Zona A1	NO	
A2 area Zone A2 Zona A2	YES	
A3 area Zone A3 Zona A3	NO	
NAVTEX NAVTEX NAVTEX	YES	
Safety NET Safety NET Safety NET	NO	

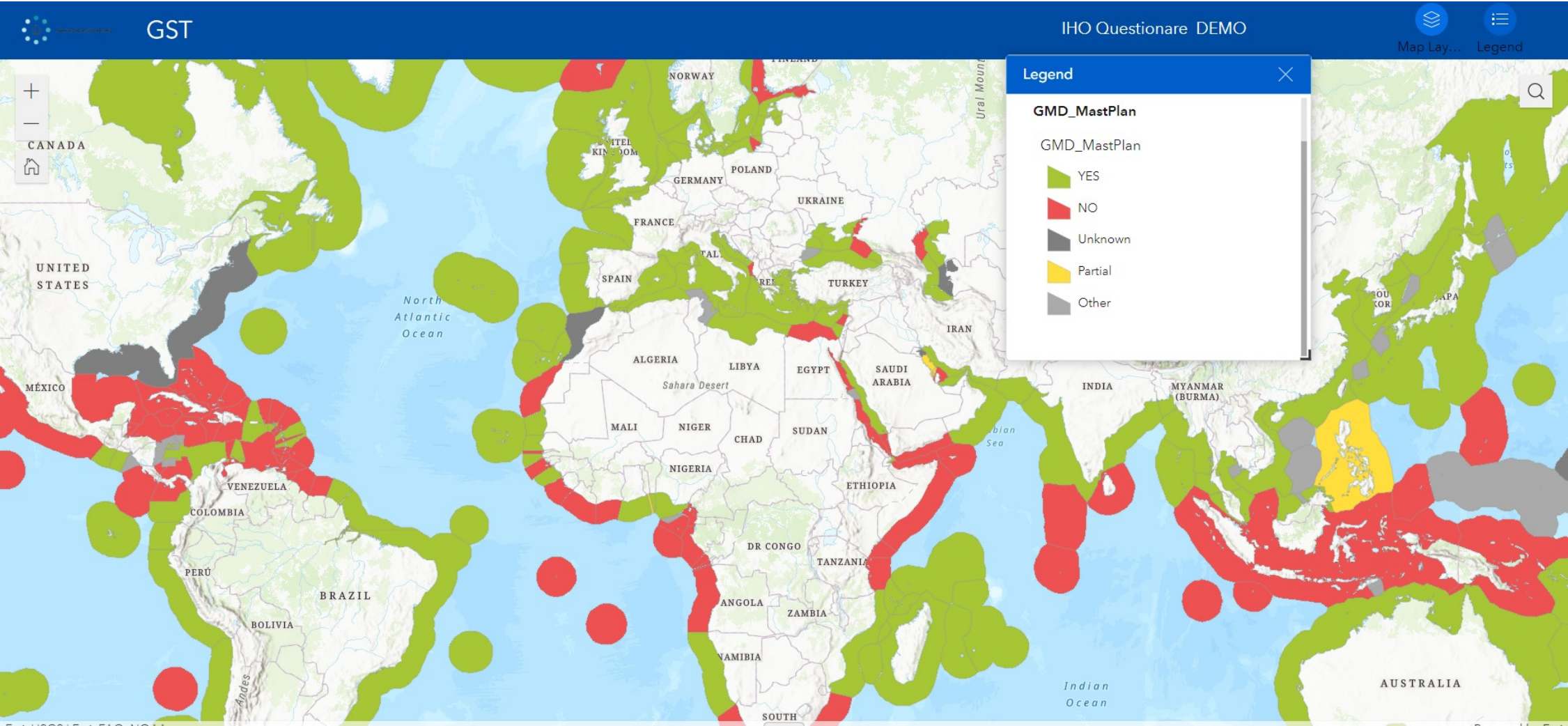
## Maritime Safety Information. Navigation Information. IHO Publication C-55 – visualized in GIS.

Maritime Safety Information / Renseignements sur la sécurité maritime / Información sobre seguridad marítima

<b>Navigational information</b> <b>Informations nautiques</b> <b>Información náutica</b>	<b>Status</b> <b>Status</b> <b>Estado</b>	<b>Notes</b> <b>Notes</b> <b>Notas</b>
Local warnings Avertissements locaux Avisos locales	YES	KalaallitNunaata Radio (KNR). Navigational warnings via Aasiaat Radio VHF. Arctic web <a href="https://arcticweb-test.e-navigation.net/">https://arcticweb-test.e-navigation.net/</a> .
Coastal warnings Avertissements côtiers Avisos costeros	YES	Navigational warnings via Aasiaat Radio MF. NAVTEX via Greenland and Iceland.
NAVAREA warnings Avertissements NAVAREA Avisos NAVAREA	NO	Navarea I, IV, XIX and XVIII Coordinators
Information on ports and harbours Information sur les ports et rades Información sobre puertos	YES	Danish Notice to Mariners (EfS).

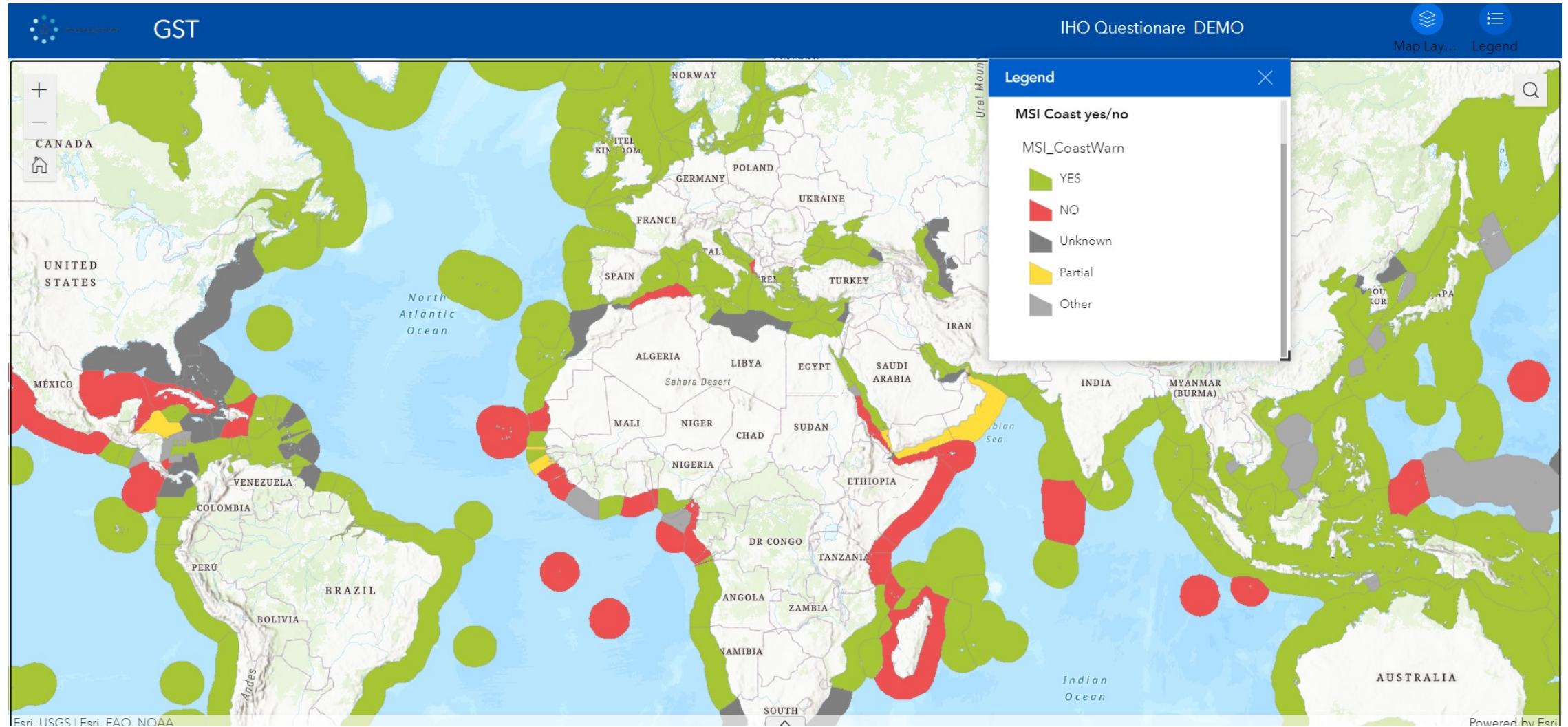


Status GMDSS Masterplan.





## Status Coastal warnings.





## Denmark - Greenland - INT Region D (D)

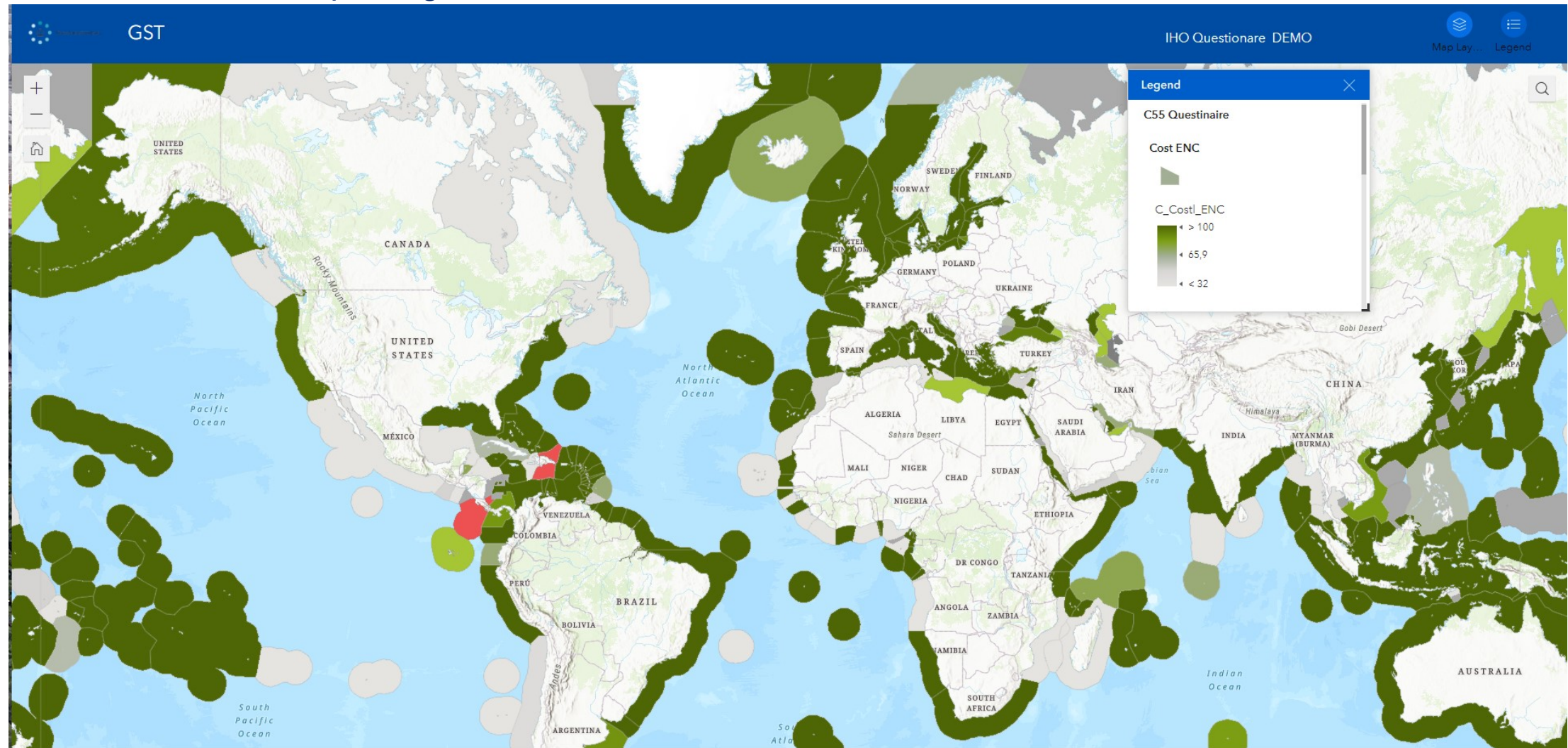
Nautical charting / Cartographie marine / Cartografía náutica

Coverage of charts published Couverture des cartes publiées Cobertura de cartas publicadas			Offshore passage Navigation au large Pasaje offshore			Landfall and Coastal passage Atterrissage et navigation côtière Recalada y Pasaje costero			Approaches and Ports Approches et ports Aproches y puertos		
<div><div></div><div>%</div></div> <div>Covered by INT or other paper charts meeting S-4 Couvert par des cartes papier INT ou autres conformes S-4 Cubiertas por cartas de papel INT o otras cumpliendo S-4</div>	100			100					4		4
	<div><div></div><div>%</div></div> <div>Covered by RNC meeting S-61 Couvert par des RNC conformes S-61 Cubiertas por RNC cumpliendo S-61</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		
	<div><div></div><div>%</div></div> <div>Covered by ENC meeting S-57 Couvert par des ENC conformes S-57 Cubiertas por ENC cumpliendo S-57</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		<div><div></div><div></div></div> <div>INTRNCENC</div>		
Paper charts showing depth in meters Cartes papier avec les profondeurs en mètres Cartas de papel con profundidades en metros		100 %	Paper charts referenced to a satellite datum Cartes papier rapportées à un système géodésique satellitaire Cartas de papel referidas a un datum satelital				Data source Source des données Origen de los datos				
Notes	New charts referes to a satellite datum.										

# Nautical charting. Coverage of charts published. From IHO Publication C-55 – visualized in GIS. MWG13-30

Coverage of ENC.

Landfall and Coastal passage





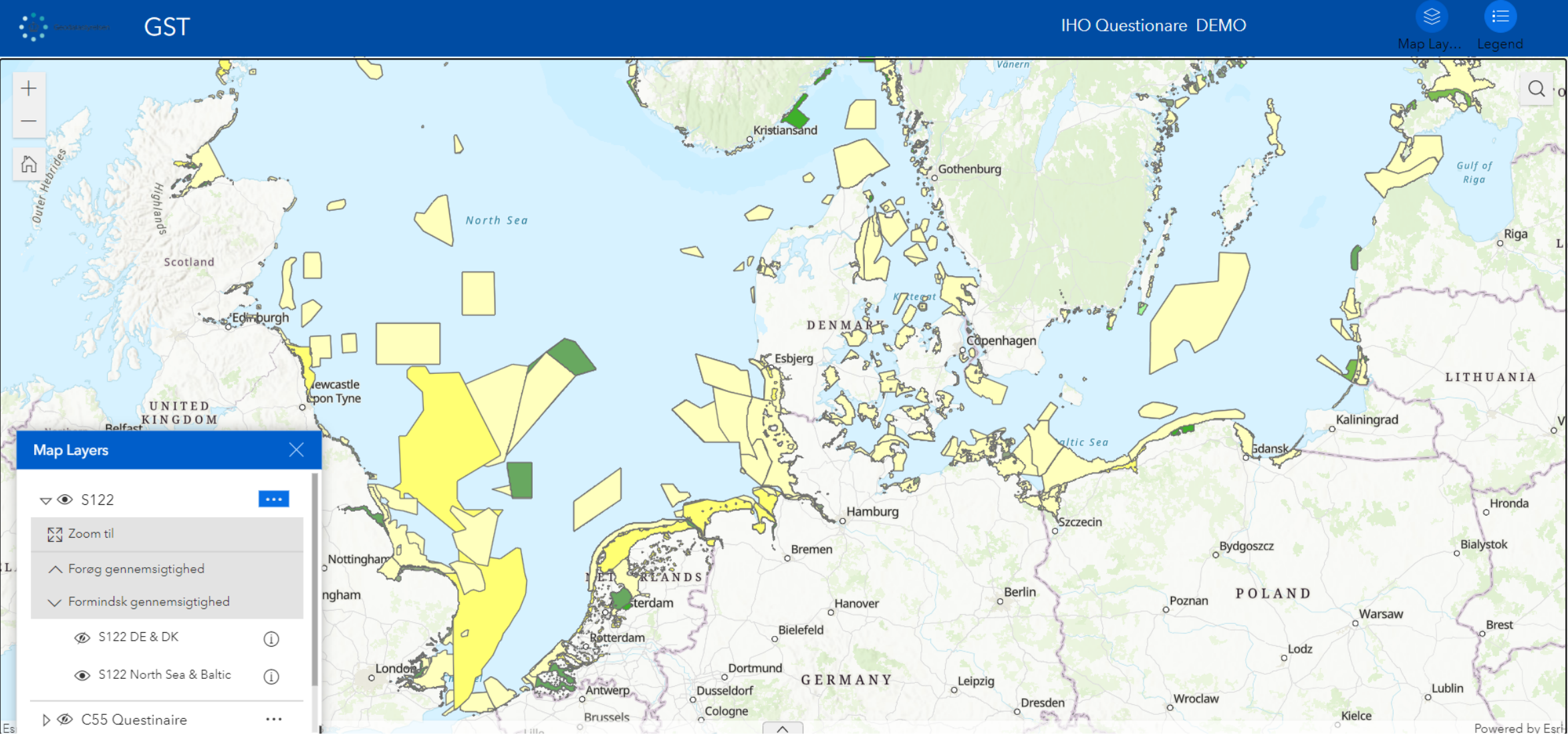
Coverage of ENC.

Offshore passage + Landfall and Coastal passage + Approach and Ports = 300% (full coverage)



# S-122 data (Converted MPA data) for the Baltic Sea and North Sea.

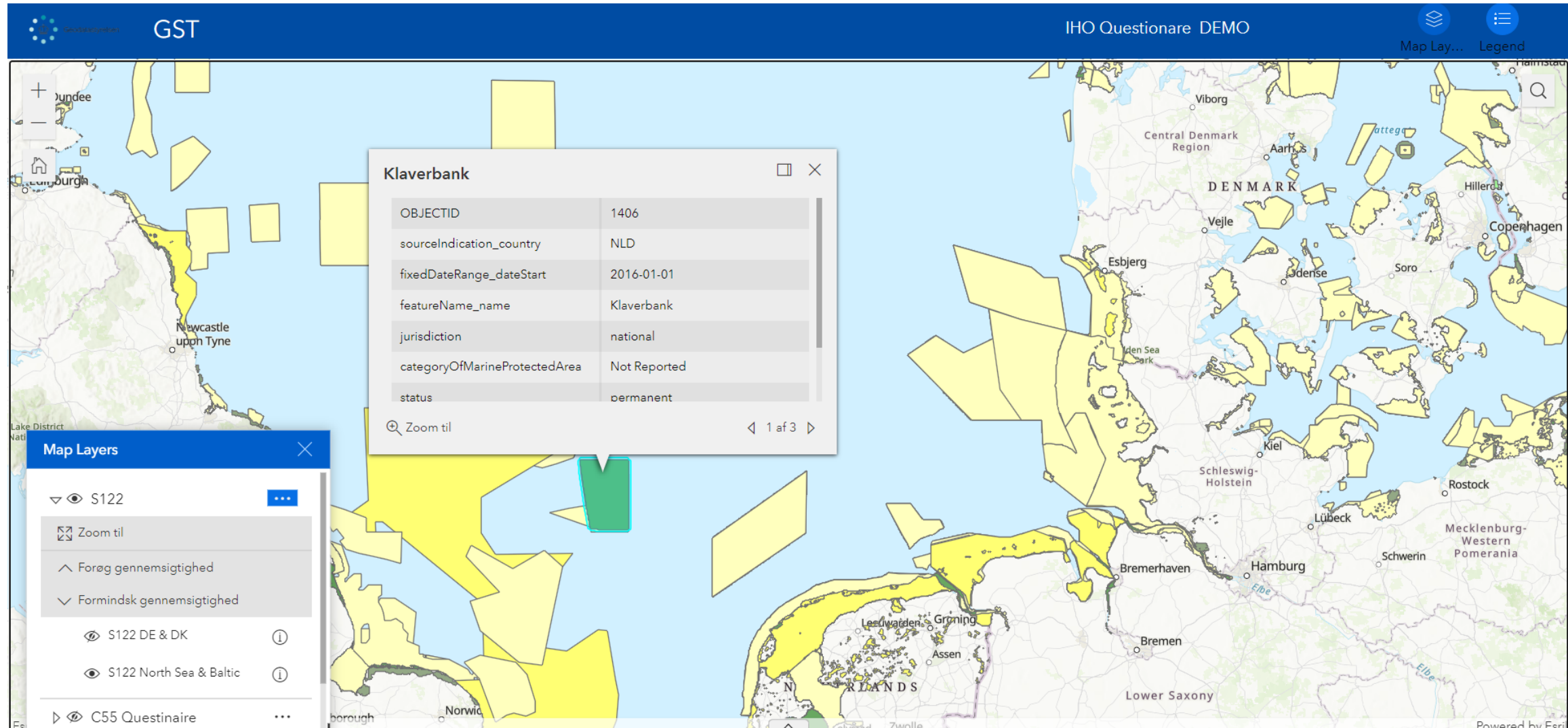
Overview of S-122 data available.





# S-122 data (Converted MPA data) for the Baltic Sea and North Sea.

Detailed information available of each S-122 datasets.



# Quality management principles



## 1. Customer Focus :

Customer focus is a crucial principle of quality management.

Customer-focused companies are committed to meeting their customers' needs and providing them with high levels of customer service.

To do this, they must identify what their customers want, how they behave, and their expectations for the company's products or services.

They also need to consider changing trends in society to continue to meet their customers' needs as time goes on.



## 1. Customer Focus: SPI 2.2.

Build a portal to support and promote regional and international cooperation in marine spatial data infrastructures (MSDI).

=>

The IHO MSDIWG is planning to send out a CI in order to identified the user needs with relation to a IHO portal.

## 3. Engagement of people.

=>

To discuss the questionnaire at the MSDIWG13 meeting in may.

### MARINE SPATIAL DATA INFRASTRUCTURES (MSDI) QUESTIONNAIRE

Member State/Organization: \_\_\_\_\_

The intent of this questionnaire is to determine the level of MSDI and Marine Spatial Planning (MSP) implementation that can support and promote regional and international cooperation and data exchange with regards to the provision of hydrographic information. Please share this questionnaire with all National Organizations that have MSDI and MSP data and invite them to fill it and return to the IHO Secretariat (if it is required in Word format, please contact info@iho.int).

Question	Answer
<b>General</b>	
Please provide your name and e-mail	
Name of organization	
Purpose of the organization	Select: Hydrographic Office, Maritime Safety Authority, National Geospatial Data Agency, private company, other
Country	
<b>Increasing the use of hydrographic data for the benefit of society</b>	
Would you consider it important to have a inter-regional portal which provides hydrographic information for the public?	If yes, state the importance (Select one option: High, Medium or Low)
Is your hydrographic data publicly available through a national and or regional data portal?	(Yes/No)
If yes, how can your hydrographic data be found and what type of data is available?	(Please describe)
Is the information about the format of these hydrographic data available?	(Yes/No)
Are the metadata available? If yes, what kind of metadata are available?	(Yes/No. If yes, please select one or more options: Coverage, Scale, Horizontal and Vertical Datums, Limits, Quality, Revision, Date, Owner/Provider, technology used, Comments)
Is detailed information about quality of data available (e.g CATZOC)?	(Yes/No)
Please provide any other additional information about the available data.	(Please describe)
<b>Surveys:</b>	
Are the status and quality of surveys in your waters of jurisdiction available and accessible for the public?	(Yes/No)
Which technologies are primarily used in the national HO surveys?	(Please describe)
Are there governance models and any legal aspects related with the survey data?	(Yes/No)

s and e-rtaining to	(Please provide)
ted with	(Yes/No)
d in your	
ere future ng of CSB	(Please describe)
nation ivities if	(Please describe)
nal ivity odel or	(Please describe)
case	(Please describe)
ther initiatives	(Please describe)
C-55 up	(Yes/No)
o surveys elieve to	(Please describe)
<b>al and international cooperation in marine spatial data</b>	
cipation	
ished, and	(Yes/No and if yes please select one option: High, Medium or Low)
national e national	(Name)
national	(Name and email)

MSDI contact point.	
Is there a national Governance model for the MSDI?	(Yes/No. If yes, please describe and provide the link)
If yes, please describe the model and provide the Link.	
Provide the link to the MSDI website.	(Link)
Is information about data available and if so, is the download of data possible, including HO data?	(Yes/No. If yes, please provide the link)
If yes, please provide the link to the website or portal where the data is available.	
Information about data formats. Please describe the data formats adopted and approved.	(Please describe)
What do you consider the main functions	(Select: Portal, Web map service, Web feature



**Link to the practical example on how MSDI (GIS) can support measuring SPI.**

<https://experience.arcgis.com/experience/b8e8486eb26d42bdb8ff3c9e3718dd3a/>





## Draft Input to IRCC14 for IHO MSDI portal concept approach and questionnaire I

Draft input The IHO MSDI portal should serve as a concentrator for access to datasets with a global theme. This can be global metadata on hydrographic product services and assisting global datasets relevant for the conduct of hydrographic activities in support of the three Strategic Goals. The technical solution is to set up a portal of portals. The content is to be maintained either by IHO subordinate bodies, collaborating entities like RENCs which provide datasets with a global theme or composed out of the respective contributions by Member States. The following examples illustrate this concept approach.

The starting point should be the existing GIS solutions which comply with the above assumptions.

IntoGIS (maintained by the IHO Secretariat) providing the following functionality:

- IHO Membership (IHO secretariat)
- INT Chart coverage (RHC)
- ENC coverage (RENC)
- Global CATZOC dataset (RENC)
- Global AIS dataset (US)
- C-55 content (IHO secretariat)
- Global MSI Navarea layout t.b.d. (IHO secretariat)
- S-100 showcases / best practices (MS)

## Draft Input for IHO MSDI portal concept approach and questionnaire II

### SCUFN Gazetteer

DCDB Map Viewer [has many functionalities – see DCDB report to GEBCO GC April 2022]

- Global Bathymetry (GEBCO Grid)
- customized creation of local bathy dataset (AutoGrid)
- Areas where bathymetric data exist which are not accessible for the GRID
- etc.

WMS-Services which provide a global coverage could be integrated as well:

- world magnetic model (US)
- world vector shoreline (US)
- world gravity model (US)
- world geodetic reference model t.b.d.

The portal architecture should be open for further development. To give an example, a world turbidity layer would be useful to identify potential areas for Satellite Derived Bathymetry.



## Draft questionnaire

Here is one question to be placed on MS on their desires of more and other datasets with a global theme to be hosted under this portal.

The expected uptake of S-100 products will make the portal solution attractive to become the authoritative source to inform about the ongoing test phase and later the status of global production of such datasets.

Therefore a questionnaire is designed to create a first impression of the ongoing activities in uses cases and for the planned regular provision of such services. There is a split between those S-xxx products which has been assigned to the two different priorities (HSSC report to C-5) and others which do not belong to the S-1xx domain, such as S-2xx and S-4xx.

[The template of the questionnaire should be of a shape that the expected metadata about projects can be digitized by the Secretariat with low effort]

S-101, S-102

- planned production / - planned coverage / - planned distribution /- planned update cycle

Etc. for all S-1xx of priority 1

Further we could ask for S-4xx

## DRAFT MARINE SPATIAL DATA INFRASTRUCTURES (MSDI) QUESTIONNAIRE

Member State/Organization: \_\_\_\_\_

The intent of this questionnaire is to determine the level of expected uptake of S-100 products in order to create a first impression of the ongoing activities in uses cases and for the planned regular provision of such services.

Please share this questionnaire with all National Organizations that have relevant S-100 data and invite them to fill it and return to the IHO Secretariat (if it is required in Word format, please contact [info@iho.int](mailto:info@iho.int)).

Question	Answer
<b>General</b>	
Please provide your name and e-mail	
Name of organization	
Purpose of the organization	Select: Hydrographic Office, Maritime Safety Authority, National Geospatial Data Agency, private company, other
Country	
S-100 national contact point. If yes, please provide contact details and e-mail address.	
Contact details	
e-mail address.	
<b>Test cases</b>	
Products/product name	
Aim of the project	
Name of the project	
Project partners	
Effectuated S-100 products	
Link to data or website	
Other relevant themes that can be presented	
Can the data be presented to IHO GIS	
Other information	
Provide the contact point details and e-mail addresses	
<b>Regular production (S-100 priority 1).</b>	
S-101	
- planned for production?	
- planned coverage?	
- planned distribution	
- other information	
S-102	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	

S-104	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	
S-111	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	
S-124	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	
S-129	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	
<b>Production (S-100 priority 2 and S-400).</b>	
S-122	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	
S-123	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	
S-411	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	
S-412	
- planned production	
- planned coverage	
- planned distribution	
- planned update cycle	
- other information	