

NATIONAL REPORT of EGYPT



EGYPTIAN NAVY HYDROGRAPHIC DEPARTMENT

ENHD

**24th MEETING OF THE NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION
(NIOHC-24th)**

Bangkok, Thailand,

11-13 Feb 2025

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NATIONAL REPORT FORM *EGYPT* TO THE NIOHC 24th

Executive summary

1. Hydrographic Office / Service:

Name of the institution:

Egyptian Navy Hydrographic Department (ENHD)

a) Description:

Established in 1952 under the chain of command of the Egyptian Navy HQ, Ministry of Defense, the ENHD has been dedicated to ensuring maritime safety and providing accurate hydrographic information.

In 2015, ENHD initiated a strategic mission to become one of the leading hydrographic offices in the region by 2030. This ambitious goal is pursued through a three-phased approach centered on key missions. However, **these phases are designed to be continuous and evolve beyond their initial targets** to meet emerging needs and challenges.

Key missions of ENHD:

- 1- Provision of Products as a Service (PaaS):** ENHD prioritized fulfilling its obligations under the SOLAS convention by providing **hydrographic services** and delivering **accurate, consistent, and reliable nautical products**. This phase involved providing ENC and Paper Chart folios that cover a vast area, which includes the Suez Canal, one of the most trafficked waterways globally, the expansive marine environment of the Red Sea (90,000 km²), and the Mediterranean Sea (188,000 km²), which has extensive oil and gas exploration activities. ENHD has successfully achieved this key objective in 2020. As the organization continues to maintain its folio and ensures all products remain up to date, it diligently prepares for the **next generation of navigation services**.
- 2- Information as a Service (IaaS):** Leveraging ENHD's **Multi-Dimensional Hydro-spatial Data**, expertise, and **exposure to Egypt's maritime domain and stakeholders' needs**, we aim to support **evidence-based decision-making** processes. This aligns with the worldwide evolution of hydrographic offices, which now go beyond their traditional roles to explore the potential of the blue economy. Our emphasis lies in unlocking this potential by maximizing the utilization of hydro-spatial data across various sectors, including naval fleet operations, oil and gas, port development, offshore energy, tourism, archaeology, and environmental conservation.
- 3- Service as a Service (SaaS):** The final phase focuses on providing seamless access to data needed for decision-making through implementing the **National Marine Spatial Data Infrastructure (NMSDI)** of Egypt. This strategic move aims to streamline access to crucial maritime data and empower stakeholders with actionable insights.

Through this strategic vision and proactive approach, ENHD continues to play a vital role in **guiding maritime excellence** and maintaining the safety of navigation within Egyptian waters while **contributing to the broader goals of the blue economy**.

b) Submitted by: *Capt. Hassan El-Halawany*
E-mail: hydro@enhd.gov.eg

2. Surveys:

Egypt is undergoing significant development in all areas to align with the United Nations' Sustainable Development Goals (SDGs) for 2030 and its national vision. This includes the development of ports and water transits, which are critical for economic growth and international commercial relations.

As a consulting partner in these developments, ENHD provides comprehensive guidance to stakeholders throughout all project stages, from planning to completion, ensuring access to high-quality hydrographic data and effective marine spatial planning. **ENHD enables evidence-based decision-making** by maximizing the utilization of its Multi-dimensional Hydro-spatial Database to support these endeavours yielding reliable depth information prominently displayed in our products. ENHD's supervisory role in these projects is crucial for **supporting the country's blue economy**, enhancing navigational safety, boosting port efficiency, safeguarding marine ecosystems, and promoting sustainable development, thereby **contributing to the long-term prosperity of Egypt's maritime sector**.

a) Suez Canal Expansion (Mega Importance Project)

The Suez Canal stands as one of the world's most crucial maritime trade routes, handling approximately **12% of global trade** and serving as a vital link between Europe, Asia, and Africa. The canal's importance was underscored in 2021 when the grounding of the container ship **Ever Given brought global shipping to a standstill for six days**. **This incident accelerated Egypt's plans** to enhance the canal's capacity, particularly in its southern segment, to **mitigate similar risks and strengthen global trade resilience**.

Recognizing the economic and strategic significance of this waterway, the Suez Canal Authority (SCA) has launched a **multi-phase expansion project to improve navigational safety, reduce transit times, and increase the canal's capacity to accommodate larger vessels**.

The first phase of the expansion project focused on the southern region of the Suez Canal, **covering a 30-kilometre stretch from kilometre 132 to kilometre 162**. This phase involved widening the canal by an additional 40 meters beyond its original width of 200 meters and creating a dual transit route in Kabret. Additionally, **new anchor berths were designated in the Great Bitter Lake** to enhance anchorage facilities within the lake. These modifications aimed to alleviate congestion, improve navigational efficiency, and enhance overall maritime safety.

The second phase, which is the most recent development, includes a newly added **10 kilometres stretch of the double canal from kilometre 122 to kilometre 132 in the Little Bitter Lake area**. This extension further enhances the canal's ability to manage increasing maritime traffic, ensuring a more efficient transit process for vessels passing through this critical section.

ENHD holds a pivotal role at this critical juncture. As a consultant to the Suez Canal Authority (SCA), ENHD meticulously monitors all dredging and expansion activities, including but not limited to alterations in canal banks that may affect transiting vessels, **identifying navigational hazards** to mitigate risks, and contributes to **traffic optimization**, thereby **minimizing environmental impacts** and minimizing carbon dioxide emissions by ensuring the **safety and efficiency of maritime operations** within this globally significant waterway, ENHD supports sustainable navigation while enhancing Egypt's blue economy and strengthening global trade routes.

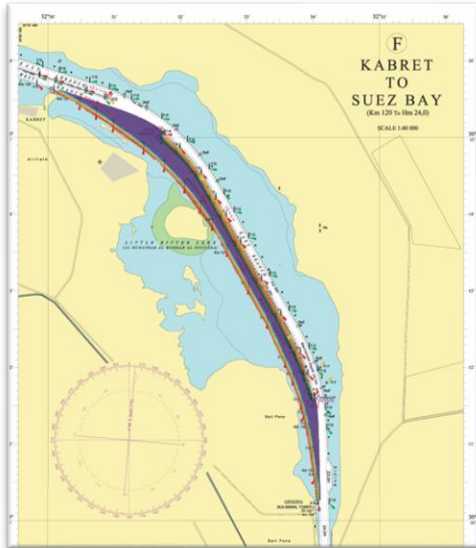


Figure 1: The new expansion from kilometre 122 to kilometre 132 in the Little Bitter Lake

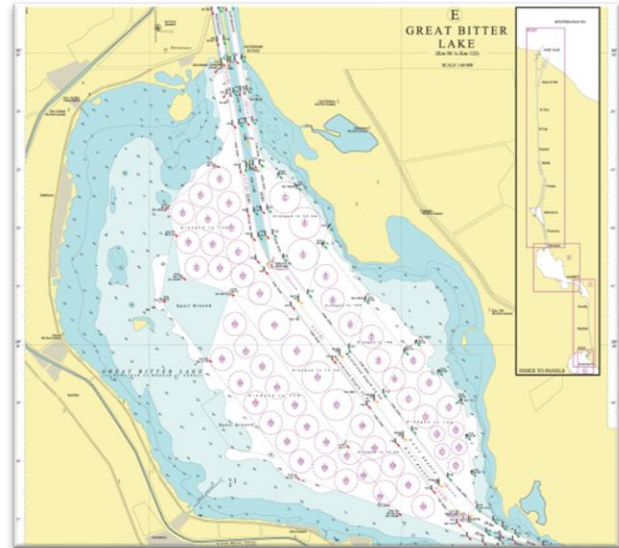


Figure 2: The new anchor berths in the Great Bitter Lake

b) Ain Sukhna Port development:

The Ain Sukhna Port located on the northwestern coast of the Gulf of Suez also witnessed a significant expansion project. This expansion positions the port as a **significant global logistics hub** and involves building **(9) new terminals with an accumulated length of (14) Km**. The Egyptian Navy Hydrographic Department (ENHD) plays a crucial role in this initiative by conducting regular hydrographic surveys to ensure safe navigable depths during dredging operations to maximize operational efficiency thus reinforcing the port's contribution to Egypt's blue economy and also to assure that our products contain the least depth information available.

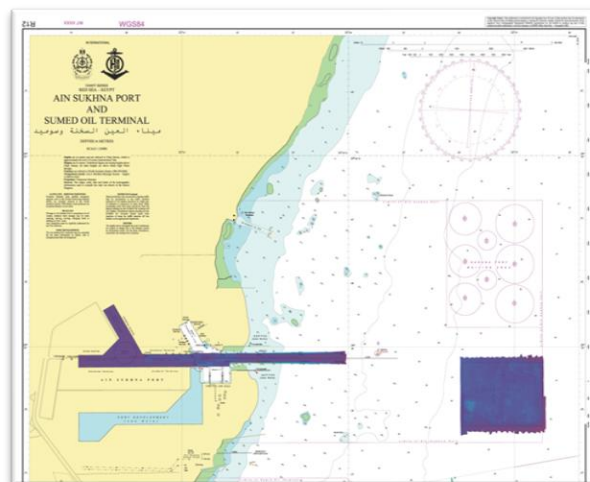


Figure 3 : Ain Sukhna Port Development Paper Chart (R12)

c) El-Gouna Marinas Survey

ENHD Recognize the **importance of tourism** and its effect on the country's sustainable development (SD) in this context, driven by our role. ENHD offers the Leisure Chart Folio service. This service specifically **supports superyachts, yachts, and small craft mariners** by providing customized chart-size coverage of approach and harbour usage bands to enhance the safety of navigation. El Gouna stands out as one of the most captivating marinas in the country, and it is considered a premier destination for leisure and recreation. ENHD conducted a full seafloor coverage survey to produce reliable leisure charts

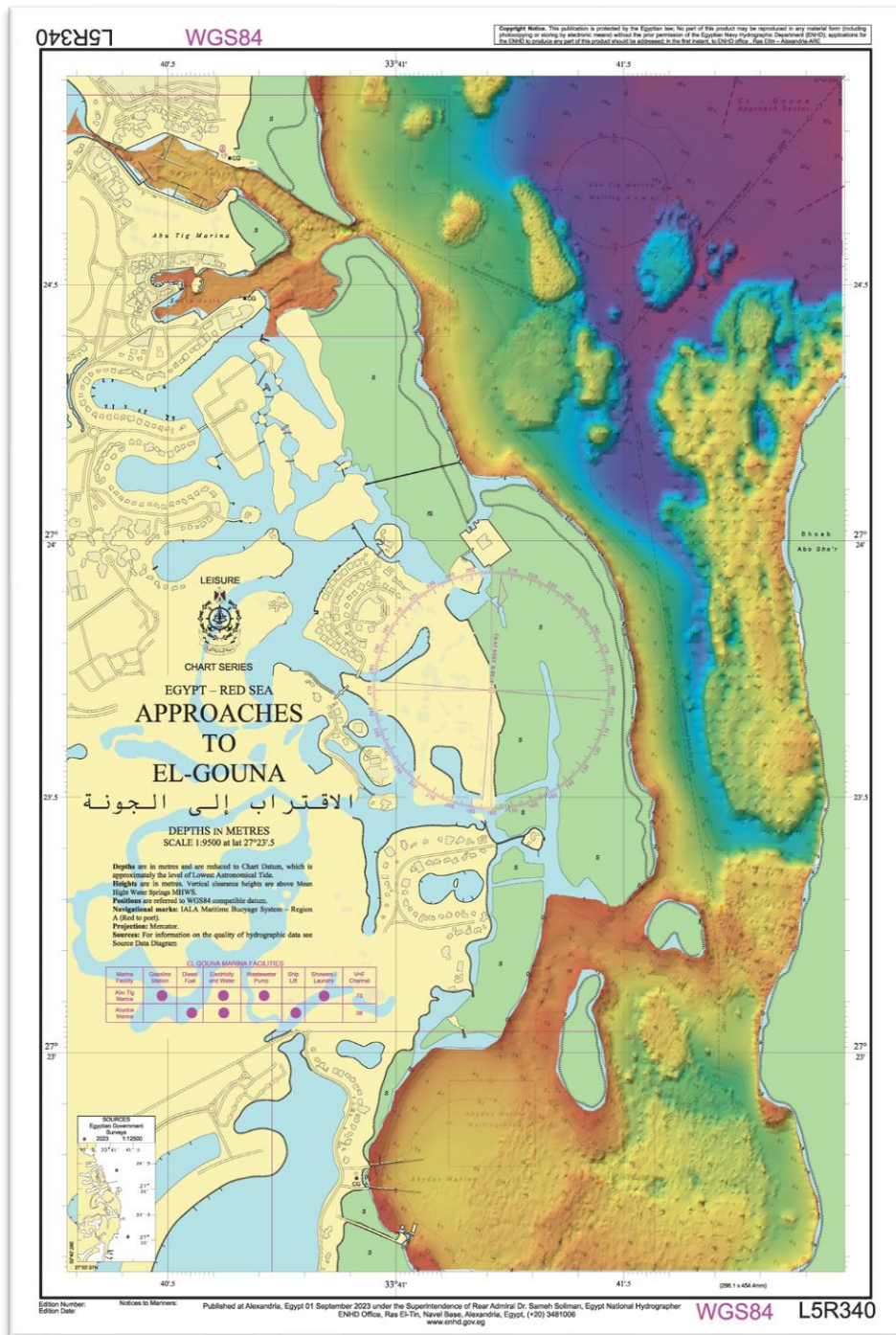


Figure 4: L5R340 Approaches to El-Gouna Leisure Chart

3. New charts & updates:

a) ENC's

ENHD maintains the consistency of all Egyptian ENC's, ensuring full coverage of Egyptian waters. This commitment guarantees that mariners receive up-to-date and consistent information for different navigational purposes, thereby ensuring the safety of navigation within Egyptian waters. **ENHD maintains 28 ENC's within Region J.**

Usage Band	Produced Cells	Total Cells (Include planned)	Notes related to the usability of products
Overview (1)	0	0	
General (2)	0	0	
Coastal (3)	4	7	
Approach (4)	9	11	Including one ENC covering the entire waterway of the Suez Canal for voyage/transit planning purposes
Harbour (5)	14	16	Including 8 ENC's covering the entire Suez Canal waterway and providing all significant details required to navigate through the SCs.
Berthing (6)	1	1	
Total	28	35	

Production Plan of ENC's:

No.	Number	Usage Band	Scale	Title
1	EG3EGR23	Coastal	90,000	Safaga To Marsa Alam
2	EG3EGR24	Coastal	90,000	Marsa Alam to Ras Banas
3	EG3EGR25	Coastal	90,000	Ras Banas to Ras Hedarba
4	EG4GOSRB	Approach	45,000	Ras Budran
5	EG4EGRSH	Approach	45,000	Sharm Al-Sheikh
6	EG5GOSWF	Harbour	22,000	Wadi Feran
7	EG5GOSTR	Harbour	12,000	AL-TOR

Continuous maintenance of the ENC suite ensures that mariners have access to the **most accurate and up-to-date hydrographic information**. Building upon its commitment to maintaining safe and efficient navigation within Egyptian maritime domain, the Egyptian Navy Hydrographic Department (ENHD) has demonstrated its dedication to data currency through the **release of 25 New Editions and Updates** to its existing Electronic Navigational Charts (ENC's), reflecting ENHD's proactive approach to maritime safety and its responsibility to provide dependable navigational resources for all vessels operating within its area of responsibility

b) ENC Distribution method

ENHD has formed a collaborative partnership with IC-ENC Since 2015, utilizes its services for the validation and distribution of our MDPs. this collaboration has resulted in noteworthy achievements with a **total distribution of 700k cells**.

The drop in 2024 sales is mainly due to geopolitical tensions in the Red Sea, which have disrupted maritime navigation routes and affected maritime security in the region.

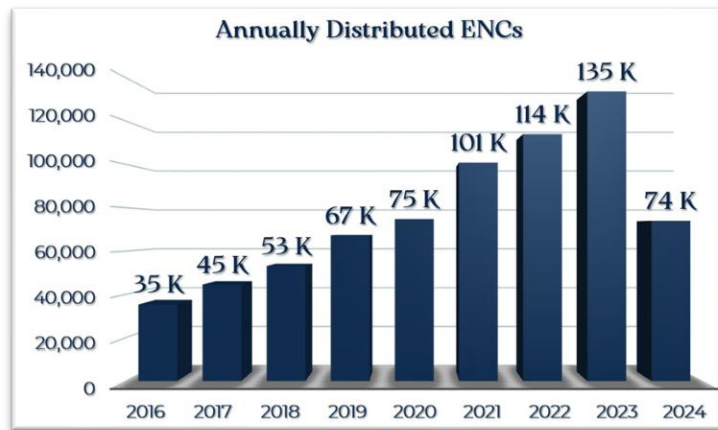


Figure 5: ENC's Annual Distribution

c) INT charts

As part of ENHD’s plan to cover the Gulf of Suez by INT charts produced by ENHD—the area that is considered a national asset due to its heavy maritime traffic, oil and gas exploration, and tourism—ENHD has submitted three charts for INT number allocation, as shown in the table below, alongside three additional charts awaiting submission to INTOGIS Portal and are expected to be produced by the end of 2025.

No.	Local Number	Usage Band	Scale	Title	Notes
1	GOS01	Coastal	150,000	Suez Bay to Ras Gharib	Submitted to INTOGIS Portal
2	R17	Approach	35,000	Approaches to Safaga	
3	R12	Approach	25000	Ain Sukhna Harbour and Sumed Oil Terminal	
4	GOS02	Coastal	150,000	Ras Gharib to Juzur Ashrafi	Awaiting submission
5	GOS03	Coastal	150,000	Juzur Ashrafi to Safaga	
6	GOS2P	Harbour		Ports in the Gulf of Suez	

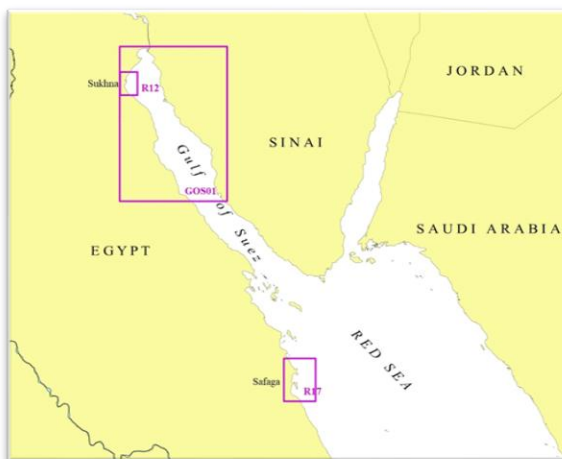


Figure 6: Charts submitted to INTOGIS Portal.

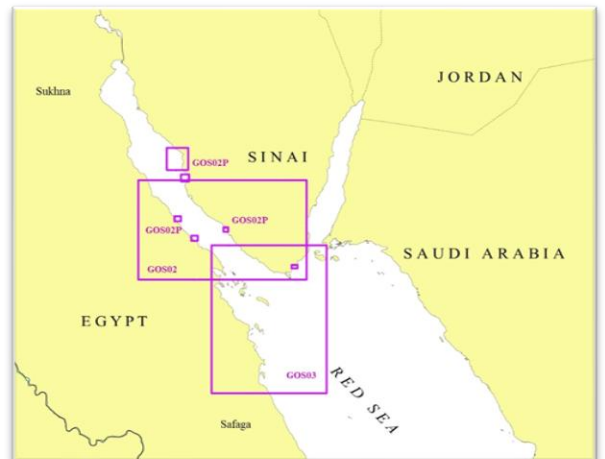


Figure 7: Charts Awaiting Submission.

d) Gridded Re-scheme

The Egyptian Navy Hydrographic Department (ENHD) proposed a structured gridded re-scheme of the Mediterranean Sea to enhance the accuracy, consistency, and efficiency of electronic navigational charts (ENCs). This initiative involves defining two primary bands: the General Band, comprising three gridded cells, each approximately $3^{\circ} \times 4^{\circ}$, and the Approach Band, consisting of 33 gridded cells, designed to provide high-resolution data for safe approach and coastal navigation. The proposed scheme aligns with international S-100 standards, ensuring interoperability with S-101 and S-102 products, thereby optimizing data integration and digital charting consistency.

The structured grid model will facilitate seamless transitions across navigational scale bands, eliminating discrepancies between ENC coverage areas and reducing the risk of navigational uncertainty. By implementing a standardized gridding approach, ENHD aims to improve data harmonization, streamline chart production workflows, and enhance the accuracy of depth portrayal and hazard identification. This initiative will significantly contribute to the efficiency of route planning, reducing chart maintenance complexities while supporting real-time hydrographic updates.

Additionally, ENHD plans to extend this gridded re-scheme to the Red Sea in early 2026, ensuring a unified framework for ENC coverage across Egyptian waters. This strategic development will reinforce Egypt's commitment to maritime safety, efficient data management, and adherence to international hydrographic best practices, thereby strengthening its role in regional and global navigation infrastructure.

4. Capacity Building:

a) Training Received:

i. Maritime Safety Information (MSI) Training:

The Egyptian Navy Hydrographic Department (ENHD) participated in a Maritime Safety Information training course held in Bahrain from October 28 to 30, 2024. This training was part of the International Hydrographic Organization (IHO) **Region J capacity-building program**. During the course, participants discussed the development of maritime safety information in accordance with international standards set by the IHO and the International Maritime Organization (IMO), to enhance navigation safety in the region.

ii. ICENC Capacity-Building Initiatives for its Members:

In alignment with the direction set by Steering Committee SC25 for IC-ENC to enhance capacity-building initiatives and provide targeted, outcome-based support for its members. The ENHD has participated in:

- **Quality Management Systems/ ISO 9001 Familiarization and Internal Auditing:**

This course focused on key aspects of a quality management system, including risk management, non-conforming product management, and quality auditing, all related to the ISO 9001 standard.

Participants learned risk management principles and the UKHO's methodology, along with procedures for handling non-conforming products (NCP), including root cause analysis (RCA). A highlight of the course was the opportunity to shadow UKHO quality audits, providing valuable insights into the audit process and its connection to the ISO 9001 framework.

- **CARIS User Conference and Bespoke Training:**

CARIS User Conference in Eindhoven, has been hosted by Teledyne Geospatial, in October 2024. This engagement facilitated knowledge exchange on the latest advancements in hydrographic workflows and navigation services, reinforcing ENHD's readiness for next-generation maritime solutions. A key component of this initiative was the hands-on training provided through the IC-ENC Learning Cloud, which deepened expertise in S-101 and S-102 standards and enabled direct engagement with CARIS software specialists. This training significantly enhanced operational capabilities, aligning with the broader strategy of collaboration with industry partners to support Member States, and underscoring ENHD's commitment to excellence in hydrographic services.

b) Training Provided

The Egyptian Navy Hydrographic Department (ENHD) and the Arab Academy for Science, Technology, and Maritime Transport (AASTMT) have proudly received recognition from the FIG/IHO/ICA International Board of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) for an additional six years. This recognition will support the launch of a Hydrographic Survey Program set to begin in March 2025. Building on the success of the first program, which included 7 Egyptian students and 1 international student, the new iteration will continue to serve Region J. It aims to provide essential training to meet the growing demand for skilled hydrographers in the maritime industry.

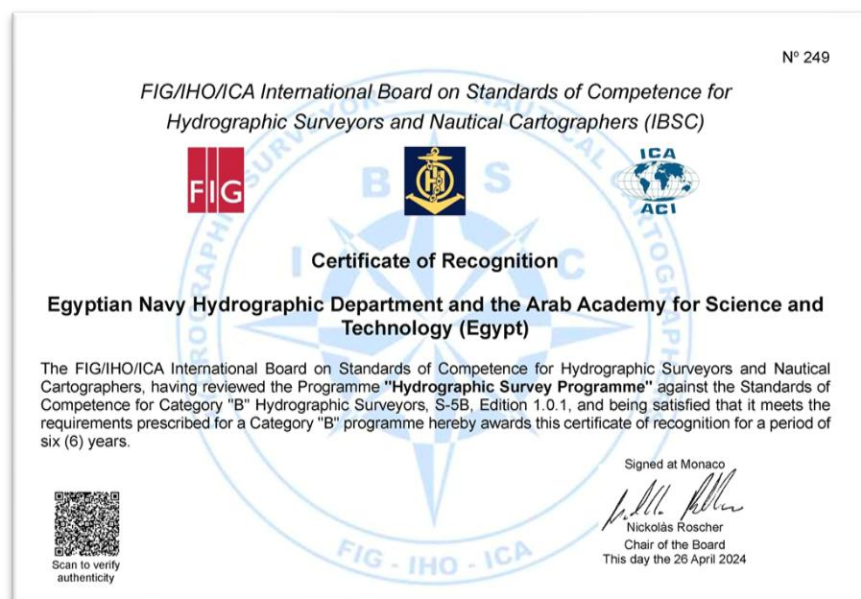


Figure 8: FIG/IHO/ICA Certificate of Recognition

c) Training Offered

ENHD is proudly introducing to region-J member states for the first time a capacity building training – 1 seat per year (**CAT-B Hydrographic Survey Program**) starting from 2026 with coordination with the **region J CB officer**.

This initiative is designed to offer valuable educational opportunities that enhance the professional development of the next generation of qualified hydrographers.

ENHD is committed to providing the necessary resources and support for all participants to successfully complete the program.

d) Training Needed

- i. S-100 Production Course (S-57 to S-100 Conversion) (2025).
- ii. SDB workshop (2025).
- iii. Marine Spatial Planning (2025).
- iv. MBES Processing Course (2026).

5. Other activities

a) Presidential Decree No. 641/2024:

Building on the active role and recent achievements of the Egyptian Navy Hydrographic Department (ENHD) in fulfilling its key missions, the Egyptian government has emphasized its support by issuing **Presidential Decree No. 641/2024**. This decree marks a significant milestone in Egypt's maritime domain, as it establishes a clear regulatory framework to ensure the achievement of national priorities. Notably, for the first time, it permits the sharing of hydro-spatial data beyond traditional constraints to support the blue economy.

This decree is the result of a strategic alignment process at the highest managerial levels, aimed at addressing gaps identified through a comprehensive survey conducted among international organizations' experts and national stakeholders. The survey revealed fragmented data practices and legislative shortcomings, which have been addressed by the decree.

It also significantly expands the responsibilities of ENHD in various areas, including but not limited to ensuring compliance with the SOLAS (Safety of Life at Sea) Convention, providing technical consultancy for maritime boundary delimitation, managing and developing the hydro-spatial data, and permitting the sharing of this critical information across multiple sectors. These efforts are aimed at supporting the blue economy and excelling the maritime domain within Egyptian waters.

b) Marine Spatial Data Infrastructure (MSDI)

As a result of the expanded responsibilities, ENHD has continued to advance the NMSDI in line with the National Hydro-spatial Programme and the ongoing third phase of ENHD's 15-year plan, "Service as a Service". Guided by the NMSDI Strategy Implementation Plan that was introduced two years ago and continuously refined to address emerging challenges and is aligned with the Integrated Geospatial Information Framework (IGIF-Hydro). The overarching goal is to position Egypt as a leader in MSDI development, reflecting ENHD's vision of being one of the leading offices in the region.

During the implementation process, ENHD encountered obstacles at both the governance and technical levels. The most prominent was the absence of a legal framework that organizes inter-organizational collaboration and defines responsibilities. This challenge was addressed through the issuance of the decree, which formally designates ENHD as the authority responsible for the collection, aggregation, and technical development of the NMSDI.

In parallel to this major milestone and following the Strategy Implementation Plan, **ENHD is now conducting a test run of the NMSDI in a controlled environment**. This initial phase incorporates **the base reference layer** (hydrography theme), laying the groundwork for the integration of additional data themes in subsequent stages. However, due to the **technology provider's limited experience with hydro-spatial data**, ENHD's direct involvement became necessary. Over the past year, **ENHD has**

organized more than 20 workshops to raise awareness and provide training on applying hydro-spatial data within MSDI environments to shift the technology provider focus from production-driven processes to data-centric practices.

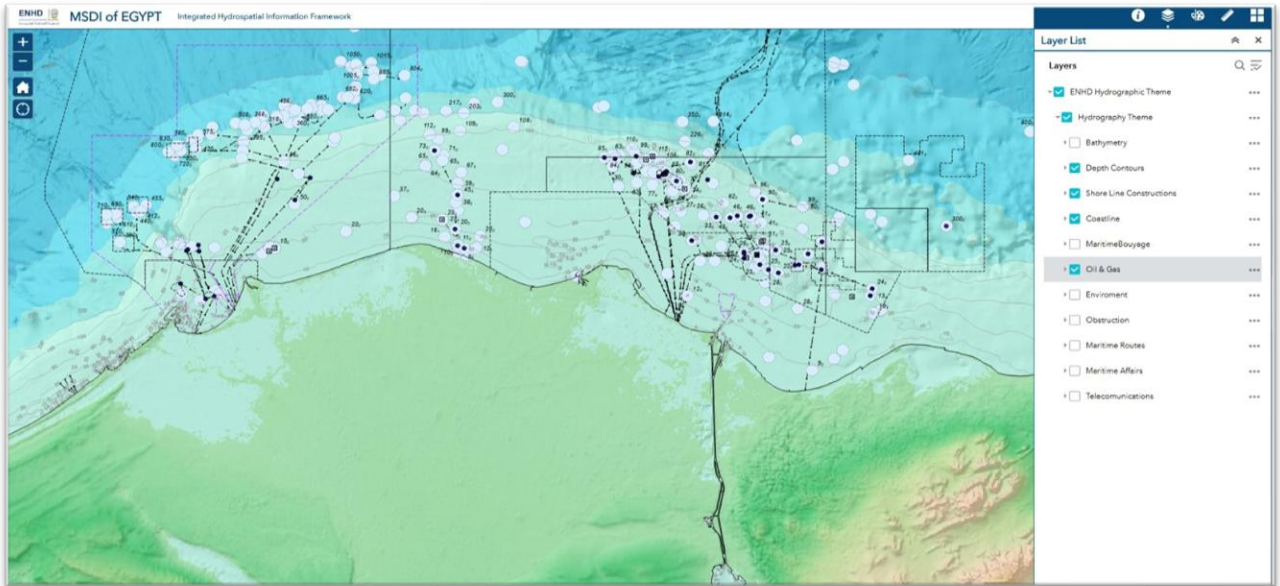


Figure 9: Pilot Project of Egypt NMSDI in the Mediterranean Sea

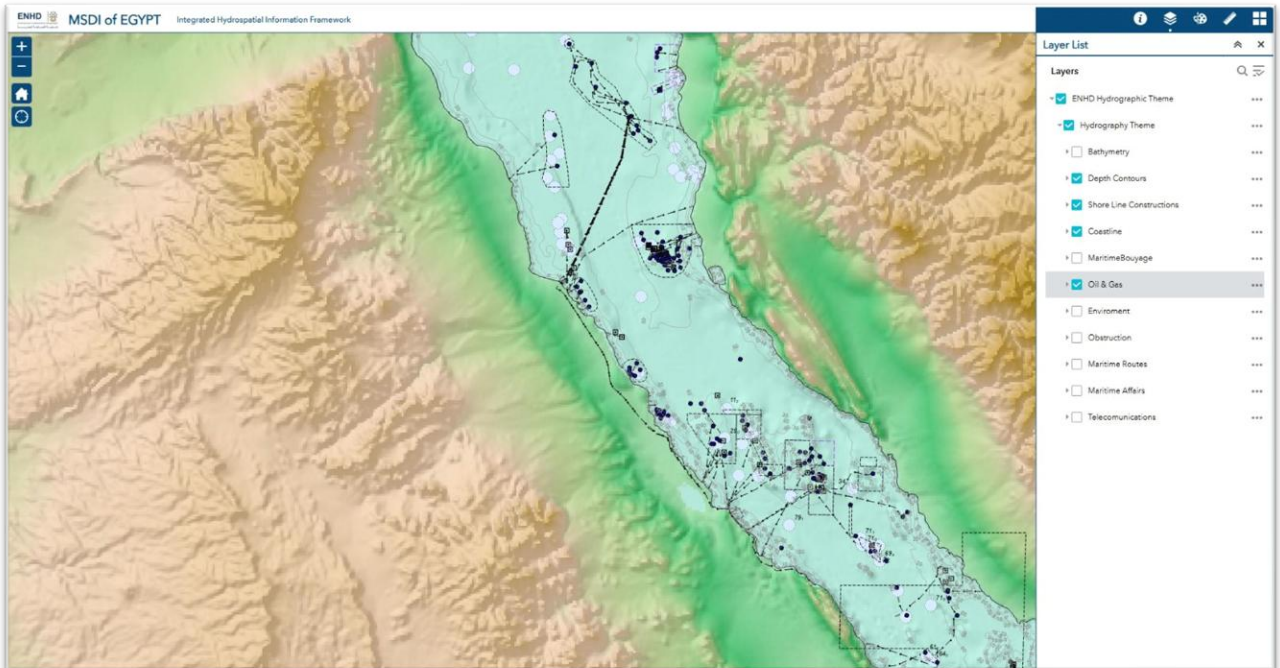


Figure 10: Pilot Project of Egypt NMSDI in the Red Sea

c) International Collaborations

i. Signing Technical Agreement with Service Hydrographique et Océanographique de la Marine (SHOM) :

The Egyptian Navy Hydrographic Department (ENHD) has taken an important step forward by signing a technical agreement with SHOM. This partnership focuses on improving hydrographic capabilities and marks a key milestone for ENHD, reflecting Egypt's growing role in global maritime activities. It aligns with ENHD's ongoing efforts to redefine and enhance the Egyptian maritime domain.



Figure 11: Vice Admiral Ashraf Ibrahim Atwa, Rear Adm. Sameh Soliman, Laurent Kerléguer, Director General of SHOM



Figure 12: ENHD Team and SHOM Delegation

ii. Instituto Hidrográfico de la Marina (IHM) visit to the ENHD:

The Egyptian Navy Hydrographic Department (ENHD) is dedicated to ensuring the safety of navigation in Egyptian waters. As part of this commitment, ENHD has seized the opportunity of the Spanish Hydrographic Office visit in late November to convene a bilateral conference. This event involved the NAVAREA III coordinator and a high-ranking Egyptian Authority for Maritime Safety (EMAS) representative. The primary objective was to enhance coordination between the national maritime authority and the NAVAREA coordinator. This collaboration is essential to ensure the timely dissemination of NAVWARNINGS, contributing to safe navigation in Egyptian waters, and reinforcing Maritime safety in the region.



Figure 13: NAVAREA III Coordinator, EMAS Representative, and ENHD NAVWARNINGS Liaison Officer



Figure 14: ENHD Team and IHM Delegation

iii. **Secretary General of the International Maritime Organization (IMO) visit to ENHD:**

This visit showcased the prominent position of ENHD today as a key player in global maritime safety. It highlighted the department's significant progress and its evolving role within the international maritime community, reflecting a strong alignment with the strategic objectives of both the IMO and the IHO, and emphasized the interconnected roles of the IHO and IMO in advancing safe, efficient, and sustainable maritime operations. The IHO's hydrographic standards and data infrastructure provide the foundation for the IMO's regulatory framework, ensuring global maritime activities are guided by accurate, reliable, and innovative solutions.



Figure 14: IMO Secretary General, Rear Adm. Sameh Soliman and the ENHD Team

Conclusions:

- a) The Egyptian Navy Hydrographic Department (ENHD) has demonstrated a steadfast commitment to maritime safety and the blue economy through its strategic initiatives and comprehensive hydrographic services.
- b) By leveraging advanced hydro-spatial data and maintaining up-to-date navigational charts, ENHD ensures the safety and efficiency of maritime operations within Egyptian waters.
- c) The ENHD's proactive approach in supporting national and international maritime projects, such as the Suez Canal expansion and Ain Sukhna Port development, underscores its pivotal role in enhancing global trade resilience and sustainable development.
- d) As ENHD continues to innovate and expand its capabilities, it remains a cornerstone in guiding maritime excellence and contributing to Egypt's long-term prosperity.

Rear Admiral Dr./ **Sameh Soliman Mohamed**

Director

Egyptian Navy Hydrographic Department

National Hydrographer

Input to the IHO Publication P-5 (Yearbook)

Country: **EGYPT**Organization: *Egyptian Navy Hydrographic Department (ENHD)*

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-Website	www.enhd.gov.eg
Country information	
-Declared National Tonnage	Tonnage: 957,378 Date: 2022
-National day	No change
-Date of establishment and Relevant National Legislation	No change
-Date first joined IHO	No change
-Date ratification Convention	No change
Agency information	
-Top level parent organisation	No change
-Principal functions of the organisation or the department	No change
-Number of INT charts published	13 (3 Region J, 10 Region F)
-Total number of paper charts published	21
-Number of ENC cells published	61 ENCs including leisure charts

Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*)
Country: EGYPT

C-55 Summary for:				Comments on Charts:
Country:	Egypt			
Country Iso Code:	EG			
Country Sub Code:	EG-J			
INT Region:	J			
Country/Depend:	C			
Last updated:	2024			
Provided by:	Capt. Hassan El-Halawany			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	Comments on Surveys:
INT	100	100	100	
RNC	-	-	-	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
Status of surveys	Adequate (%)	Resurvey (%)	No survey (%)	
0-200m	80	20	-	
> 200m	80	20	-	

MSI	Y/N	Comments on MSI:
Local warning		
Coastal warning		
Nav warning		The Egyptian Authority for Maritime Safety (EAMS) is responsible for disseminating NAV warnings in Egypt.
Port warning		
GMDSS	Y/N	Comments on GMDSS:
Master Plan		All Egyptian vessels comply with the IMO recommendations regarding the GMDSS implementation.
Area A1		
Area A2		
Area A3		
NAVTEX		
SafetyNet		

National MSI Self-Assessment

Country: EGYPT

Organization: Egyptian Authority for Maritime Safety (EAMS)

a) Maritime area
Egypt is in two Navareas III & IX

b) Operational Points of Contact for the National Coordinator

INSTITUTION	TELEPHONE	FACSIMILE	EMAIL
EAMS	(+20)3-4833698 (+20)3-4802681	(+20)3-4875633	eams@eams.gov.eg

c) Existing infrastructure for transmission:

In compliance with Regulation 4&9 of Chapter V of the International Convention on the Safety of Life at Sea (SOLAS V), Egypt ensures timely dissemination of MSI by robust national Maritime Safety Information infrastructure through 3 active NAVTEX stations located at (Alexandria, Quseer, and Ismailia) are transmitting MSI warnings on 518 KHz.



Figure 10: MSI Stations

KHz	Call	Station Name	Range (NM)	Transmission Time (UTC)						Area
518.0	SU H	Alexandria	350	0210	0610	1010	1410	1810	2210	III
518.0	SU K	Quseer	350	0330	0730	1130	1530	1930	2330	IX
518.0	SU Z	Ismailia	400	0350	0750	1150	1550	1950	2350	IX

d) Operational Issues:

All 3 NAVTEX stations are fully operational.