

Egyptian Navy Hydrographic Department

ENHD



NATIONAL REPORT of EGYPT

**20th Conference of the North Indian Ocean Hydrographic commission
(NIOHC)**

13 - 15 July 2021

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References:

1. IHO Resolution 2/1997 as amended.
2. IHO ACL 27/2020 dated 25 June 2020 – approval of the second tranche of proposals originally for consideration by the 2nd session of the assembly.
3. Decision No.9 of A-2, 2020.

Executive summary

1. **Hydrographic Office / Service: General, including updates for the IHO Yearbook.**

a) Name of the institution:

Egyptian Navy Hydrographic Department (ENHD)

b) Description:

The Egyptian Navy Hydrographic Department (ENHD) was established in 1950, originally formed to serve the Egyptian fleet, and following the chain of command of the Egyptian Navy HQ. ENHD has evolved considerably throughout the years to become an active participant in the field of hydrography and serving in the provision of hydrographic services to both military and commercial sectors.

ENHD is the national hydrographic office of Egypt, and the official representative of the Egyptian government in the International Hydrographic Organization (IHO) and the respective hydrographic commissions of the Mediterranean and Black Seas Hydrographic Commission (MBSHC)) and the North Indian Ocean Hydrographic Commission (NIOHC)).

ENHD's Experience has been gained by over 70 years of rigorous survey practice, and the implementation of a well-balanced strategy aiming to mix practice and education of all involved personnel to build upon the office's strong foundation. This went along with the support of the Egyptian Government in

providing the most up to date hardware and software to ensure reliable and consistent hydrographic service.

Considering the missions of ENHD, and to grant the highest possible service efficiency, it has been structured to include several divisions as follows:

- ✦ The Hydrographic division.
- ✦ The Navigation Division.
- ✦ The Meteorological and Oceanographic Division.
- ✦ The Logistics Division.
- ✦ The Technical Support Division.

Key missions of ENHD:

- ✦ Collecting hydrographic data according to related IHO standards, primarily fed into the navigational charts database. Also used to ensure the safety of surface navigation and the protection of the marine environment.
- ✦ Paper and Electronic charts production, distribution and updating for the Egyptian Territorial waters using fresh hydrographic data.
- ✦ Maritime Boundary Delimitation (Law of the sea implementation).
- ✦ Coastal zone management.
- ✦ Scientific studies related to the sea and near-shore zone.
- ✦ Physical properties of the water column, tides, currents data gathering and processing.
- ✦ Ensure the timely dissemination of Maritime Safety Information.
- ✦ Hydrographic and oceanographic Support of naval operation.
- ✦ Providing the fleet with navigational equipment and publication.
- ✦ Maintaining and repairing navigational equipment.

c) Submitted by: ENHD

2. Surveys:

Coverage of new surveys.

Numerous surveys are being performed/witnessed by the ENHD survey team in our area of interest. The Tangible Expansion of our folio was a result of the Cooperation between ENHD and Oil and Gas Sector, port authorities, survey companies and the commercial sector which led the maximization our hydrographic databases a conforming with IHO WEND principles.

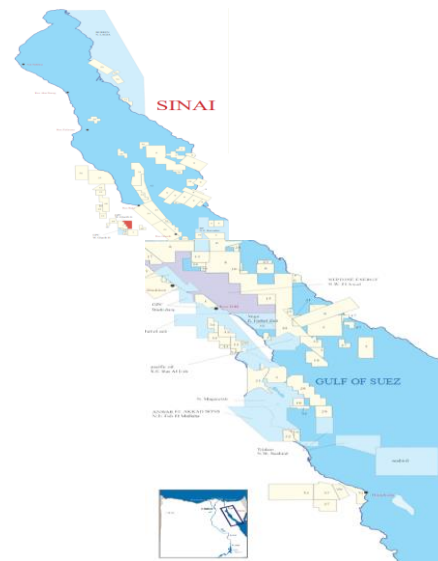


Figure: Oil and Gas Concession Map 2021 and Survey Blocks -Gulf of Suez

Crowdsourced and satellite-derived bathymetry - national policy.

Our national policy aims to enrich ENHD database and foster our personnel in using these advanced techniques, and to aid to;

- Data coverage of shallow waters less than 10 meters.
- Reduce coverage Gaps.
- Higher- Resolution bathymetry near coast.
- Explore confined area as a reconnaissance tool.

3. New charts & updates:

As planned and reported to the last NIOHC meeting, our main priority plan for 2020 was to cover one of the most highly trafficked lanes in the world, the Gulf of Suez. Despite the pandemic, the ENHD team have managed successfully to cover the Suez Gulf and the southern approaches to Aqaba Gulf by 10 fresh, reliable, and consistent ENC's as follows:

	CELL CODE	USAGE BAND	SCALE	CELL TITLE
1	EG3GOS01	Coastal	90000	Ras Rawahimi to Suez Canal
2	EG3GOS02	Coastal	90000	Ras Sharatib to Juzur Ashrafi
3	EG3GOS03	Coastal	90000	Ashrafi Islands to Safaga
4	EG3GOA01	Coastal	45000	Ras Muhammed to Nabq
5	EG4GOS2G	Approaches	45000	Approaches to EL Tur and Ras Shuqeir Terminals
6	EG4GOA1S	Approaches	12000	Approaches to Strait of Tiran
7	EG4GOS3H	Approaches	45000	Approaches to Hurghada

8	EG4GOS3Z	Approaches	45000	El Zeit Oil Terminal
9	EG5GOS2R	Harbour	12000	Ras Shukier Oil Terminal
10	EG5GOA1T	Harbour	22000	Strait of Tiran



Figure: New Coverage of EG ENCs in 2020

Planned ENCs:

ENHD Plan to produce 3 coastal band ENCs covering the southern part Red sea territorial water of Egypt down to Latitude 22° N.

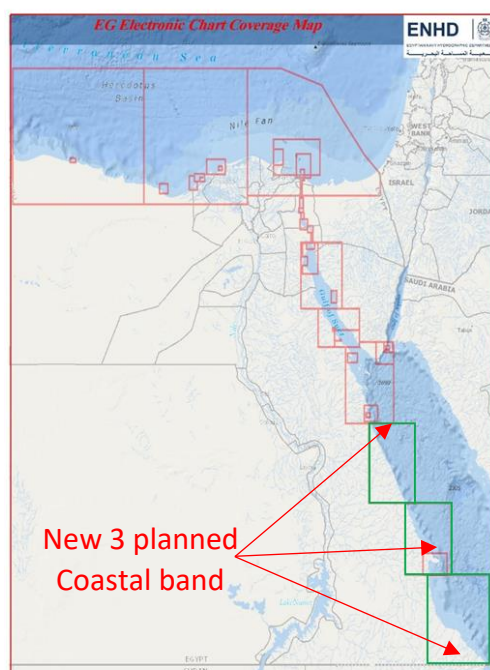


Figure. Existing ENCs in red color- Planned ENCs in green color.

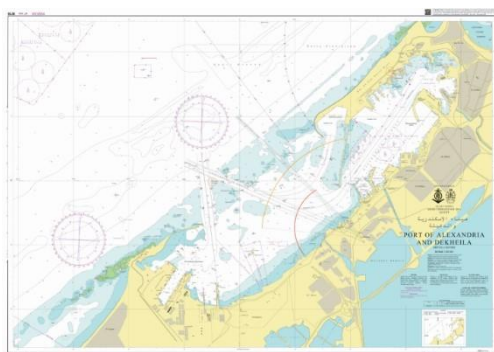
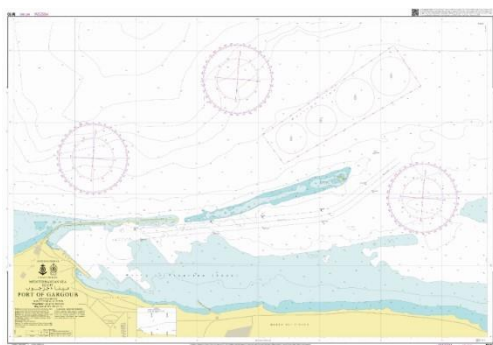
ENC distribution method.

To ensure the greatest possible standardization, consistency, reliability, and availability of ENCs, and as a result of IHO encouragement for a member state to distribute their ENCs through a RENC, ENHD has joined the Regional ENC Coordinating Centre (ICENC) since 2015 as a response to the Worldwide Electronic Navigational Chart Database (WEND) principles of the IHO.

INT charts.

4 new International CHARTs Produced by the Egyptian Navy Hydrographic Department ENHD have been added to the World INT Chart Scheme Catalogue in 2020.

	Chart Title	Local Number	Scale	INT Number
1	Port of Alexandria and Dhekelia	M18	20000	3554
2	Damietta Port	M21	35000	3552
3	Outer Approaches to Port Said	M21	50000	3548
4	Port of GARGOUB	M10	12500	3560



ENHD continue its great contributions to promote the "Safety of Navigation" within the Egyptian waters, these successive achievements coincide with the Country's

strategic approach to harness the maximum output of its resources within the Mediterranean and the Red Sea.

Challenges and achievements

✚ Despite the COVID-19 Impact and challenges ENHD with a great cooperation with the ICENC and the Charting coordinators have managed to release all the new cells and the new INT charts to the international mariner in the pre-agreed time frame.



✚ ENHD released its newly developed website on February 23, 2021



www.enhd.gov.eg

Our goal with this new website is to provide our partners and stakeholders with an easier way to learn about ENHD's services and to browse all information needed to keep our nautical products up to date including NtMs.

The new website gives better access to Who We Are, How We Work, Expertise & Services, Our Capacity, the projects we have completed and, on the priority, our ENC and Paper Chart folio.

4. New publications & updates: New Publications.

- a) **New Publications** under progress: ENHD is working on producing a newly updated sailing direction book for Egypt's ports with cooperation with The Egyptian Authority for Maritime Safety (EAMS). EAMS Periodicals & Publications include:
- ✚ **Statistical Yearbook:** Analyzed statistical and economic reports related to the Egyptian Ports and Suez Canal traffic.
 - ✚ **Maritime Ports Guide:** Includes data on characteristics of the Egyptian main and specialized ports and Suez Canal.

- ✦ **Specialized Subjects** (Selective Dissemination, Research and Studies): Includes abstracts on different maritime research and studies and the latest maritime topic and articles in the field of the Maritime Transport industry.
 - ✦ **Maritime Yellow Pages:** It includes the main data on companies, agencies, entities and bodies operating in the field of Maritime Transport.
 - ✦ **E-Bulletin:** A monthly e-bulletin concerned with the latest news and information of international and Egyptian maritime transport.
 - ✦ **Maritime Legislation:** Laws, decrees and resolutions that regulate the maritime transport activities within Egyptian territorial waters.
- b) **Updated publications:** Egyptian Authority for Maritime Safety (EAMS) manages the safety of maritime navigation in accordance with the International Conventions and regulations. Updated publications can be reached on their website www.eams.gov.eg or the Egyptian Maritime Data Bank www.emdb.gov.eg
- c) **Means of delivery:** Digital, hard copy or through Egyptian Maritime Data Bank www.emdb.gov.eg

MSI:

ENHD is playing a prominent role to ensure timely dissemination of all maritime safety information by;

- Raise the awareness of Egyptian Authority of Maritime Safety EAMS personnel on how Important to timely disseminate maritime safety information (MSI).
- Ensure the accuracy of the provided information (i.e, accurate coordinate, the precise description of the information and timely
- Keeping the coordination with Nav-area III and IX on its high priorities (assigned a duty officer 24/7 to provide any critical MSI such as naval exercises)

5. **C-55:** online form has been updated.

Capacity Building:

Training received:

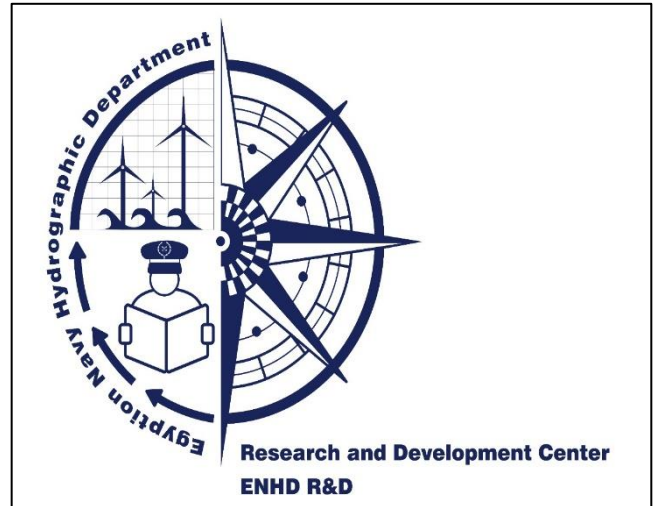
- ✦ ICENC ENC validation course hosted by the ENHD in late 2019.
- ✦ UKHO ENC training course.
- ✦ MSDI Awareness Training Course

6. Oceanographic activities:

ENHD is going to establish a new research and development (R&D) Center to serve and help in providing evidence based decisions

The R&D center will provide many studies such as:

Metocean, environmental, spectral wave analysis, overtopping, hydrodynamic and morphology studies based on models such as DELFITE 3D and MIK21



7. Spatial data infrastructures: Status of MSDI.

The MSDI Four pillars are being developed, the MSDI planned to be implemented in 2025 as national marine spatial data infrastructure (MSDI) of Egypt

Other activities:

Mega Projects being carried under supervision of ENHD. ENHD Provides the assistance and consultancy during the contractual procedures, hydrographic survey operation and the assistive equipment such as Aids to navigation.

Egyptian Navy large multifunctional port facility megaproject in Abu- Qir

a large multifunctional port facility will be developed adjacent to the Abu Qir Container Terminal, which is currently under construction.

This vast project includes the reclamation of 1,000 hectares of new land, the dredging of the port's approach channel to 23 m and the turning basin to 22 m. An enormous volume of more than 150 million m³ will be dredged.

The marine works, including 6,800 m of quay walls for new berths, 8,800 m of breakwaters and soil improvement works, will be executed by in partnership with other multinational Dredging companies.

ENHD is playing a key role within this mega project starting from the investigations of the contract between the EG Navy and the construction company and other partners, providing all information needed (bathymetric/environmental) from its Database to get clear decisions.

All surveys, dredging and reclamation of this project are done under the supervision of the ENHD survey team.



Figure: Abu Qir Large Multifunctional port facility megaproject in Abu-QIR, EGYPT.

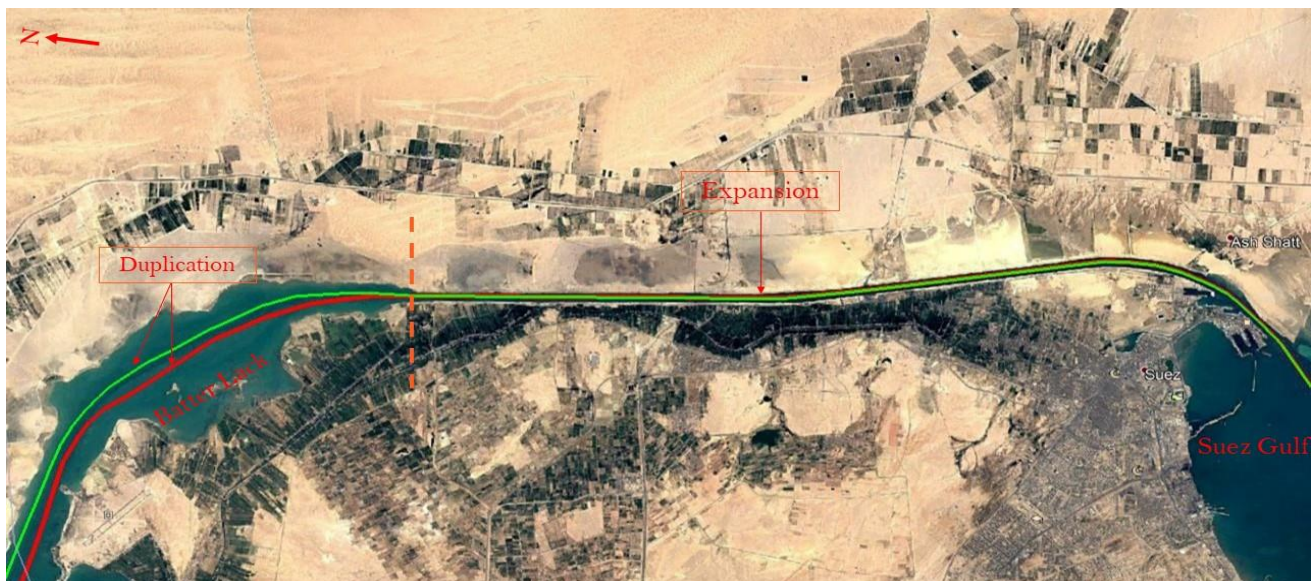
Suez Canal New expansion:

In accordance with the new development plan for the Suez Canal and after the accident of the Evergreen ship the decision take to develop the southern part of the canal with Expansion and deepening of the southern area of the Suez Canal with a length of 30 km, in addition to a new duplication of the channel course in the Small Lakes region with a length of 10 km.

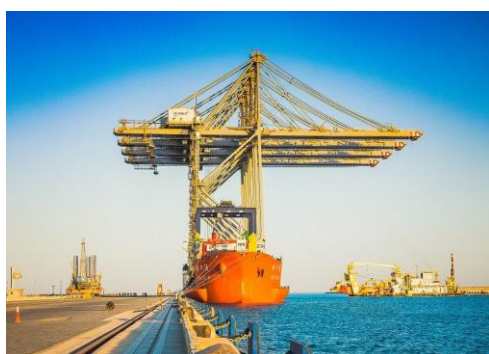
The development includes the expansion and deepening of the navigation course of the Suez Canal, starting from the 132 kilometers south of the Lesser Bitter Lakes to the 162 kilometers, which is the end of the canal at the Suez Exit. in addition to making

a duplication from kilo 122 to kilo 132 in the Bitter Lake, with a length of 10 kilometers to the west to join the new Suez Canal.

The new duplication project with a length of 10 km will improve navigation within the Suez Canal. The project will increase the capacity of the canal to bear 6 other ships (3 in each canal). So, the dredging works in the targeted area of the duplication will be 45 million cubic meters of sand. As for the expansion and deepening project for the rest of the canal stream to its end in the south, it will be 40 meters to the east, and the canal will be deepened from 20 to 22 metres.



AIN SOKHNA New PL AN:



- Ultra-modern multi-purpose facility capable of handling large ships.
- Purpose-built for future needs, with a basin width and entrance of 680m with direct access from the Gulf of Suez; basin depth of 17m.
- Enhanced port automation and next generation container handling equipment.

Development Projects:

Current development:

- Container terminal: 640,000 m²
- Livestock terminal: 211,000 m²
- Liquid bulk terminal: 400,000 m²

Future expansion:

- Container terminal: 1,490,000 m²
- RO RO Terminal – Basin 2: 880,000 m²
- Cruise Terminal – Basin 2: 60,000 m²
- Liquid Bulk Terminal – Basin 3: 420,000 m²
- Dry Bulk Terminal – Basin 3: 445,000 m²
- Container Terminal – Basin 4: 815,000 m²
- General Cargo Terminal – Basin 4: 545,000 m²
- Dangers Cargo Terminal – Basin 5: 615,000 m²
- Multi-Purpose Terminal – Basin 5: 755.000 m²

Development of El Sokhna port is being matters, due to its geographic location.

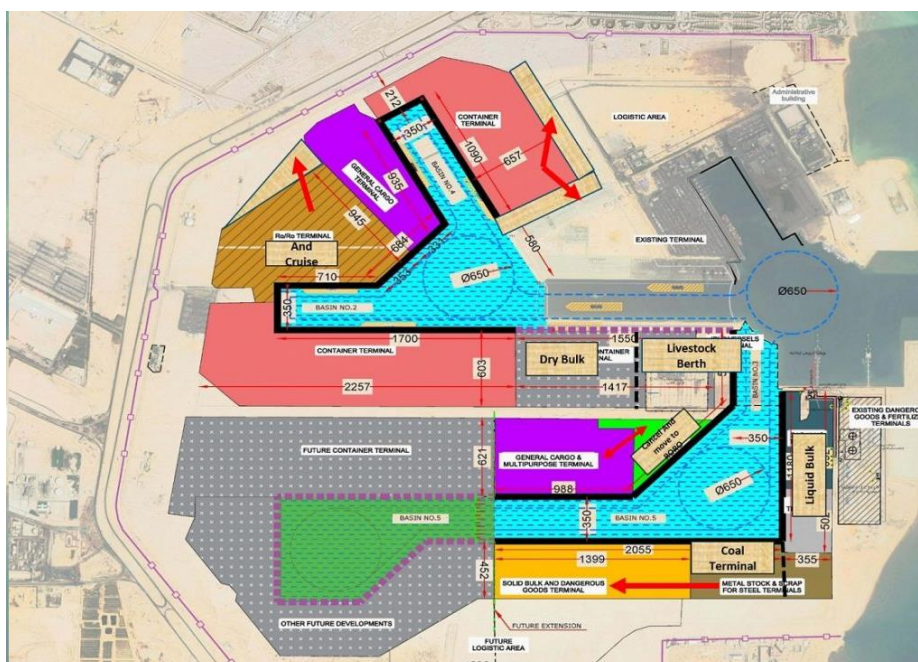


Fig. Sokhna Port development layout.

the third basin and the new petroleum jetty have just opened to welcome the new ships. on the other side, it is planned to develop the port to include newer three basins too, by the end of this development plan the port could welcome ships by double capacity.

As ENHD role of the general development movement, ENHD delivers the needed consultancy and experiences to ensure the correct study even in planning procedures as wells.

Meteorological data collection:

Varieties of Meteorological datasets are being collected, analyzed and utilized by ENHD meteorological division.

Preparation for responses to disasters:

A complete contingency plan between Egyptian Authority for Maritime Safety and the Egyptian Search And Rescue Center (ESARC). ESARC under the Egyptian Ministry of Defense provides its services using Helicopters, Maritime units, Fixed-wing aircraft for Search operations, Medical evacuation, and providing rescue boats-first aids.

Rear Admiral Dr./

Ashraf Nabil EL-Assal

Director

Egyptian Navy Hydrographic Department

National Hydrographer