

Egyptian Navy Hydrographic Department

ENHD



NATIONAL REPORT of EGYPT

**22nd Conference of the Mediterranean and Black Seas Hydrographic Commission
(MBSHC)**

27 - 28 May 2021

22nd Conference of the Mediterranean and Black Seas Hydrographic Commission (MBSHC)

27 - 28 May 2021, (Virtual)

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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 e.g. reorganization.**

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:

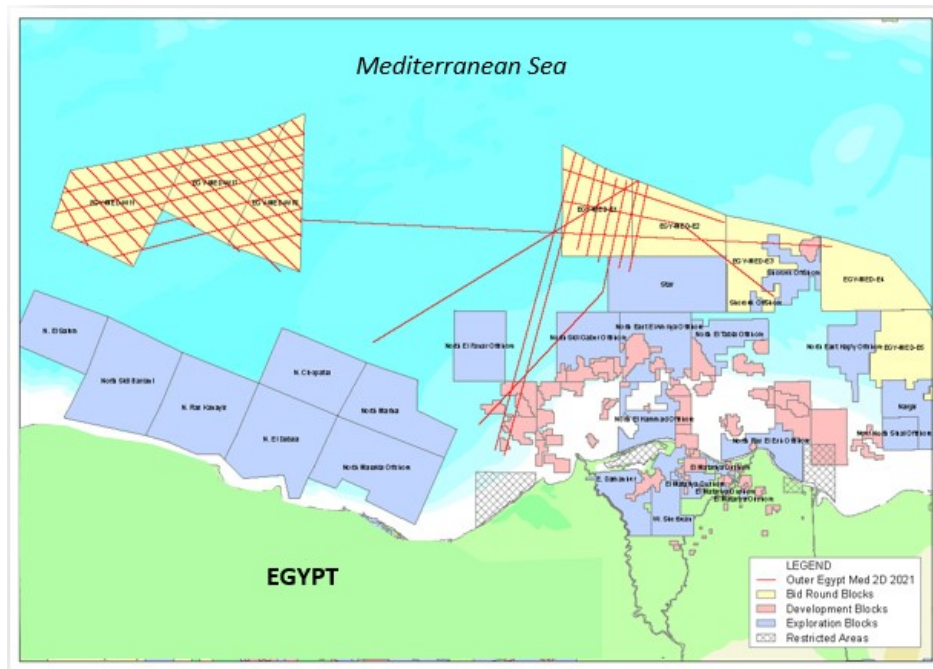
- Collecting hydrographic data according to related IHO standards, primarily fed into the navigational charts database. Also used to ensure the safety of surface navigation and the protection of the marine environment.
- Paper and Electronic charts production, distribution and updating for the Egyptian 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.

Extended collaboration and coordination with the Oil and Gas Sector In addition to a fresh flow of bathymetric data being delivered to ENHD from all survey companies working off the Mediterranean coast of Egypt, led to the tangible expansion of our folio and to keep our nautical products at the best currency.



Numerous surveys are being performed/witnessed by the ENHD survey team.

Egyptian Navy, Hutchison Ports partner up on mega-ship container terminal in Abu-Qir

Port developer and operator Hutchison Ports has signed a long-term agreement with the Egyptian Navy on the development and operation of a new container terminal in Abu Qir, Egypt.

The new terminal will be located inside the Abu Qir Naval Base. the total investment in the new terminal is estimated to reach \$730 million. The project will be funded primarily by the joint investment of the two partners in phases, with a handling capacity of 2 million TEU upon completion. The new harbor will have a total quay length of 1,200 meters and a 60-hectare terminal yard, an additional 100 hectares of





Figure: Abu Qir Container Terminal.

ENHD is playing a key role within this mega project starting from the investigations of the contract between the EG Navy and Hutchison Ports, providing all information needed (bathymetric/environmental) from its Database to run the models and the planning of the port approaches and the associated NAVAIDS.

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

Crowdsourced and satellite-derived bathymetry - national policy.

Use Case: Lake of Bardawell

Lake Bardawell is a (saline lagoon) nearby the protected area of Zaranik (also known for diversities of insects and water birds) Located on the north coast of the Sinai Peninsula. Lake Bradawl is about 30 kilometres (19 mi) long, and 14 kilometres (8.7 mi) wide (at its widest), with a total surface area of 595 sq. km

Task: provide Bathymetric data for Lake Bradawl in Egypt.

Objectives:

- Data coverage for shallow waters down to 10 m depth inside the Lake.
- reduce bathymetric data gaps.

- Higher-resolution bathymetry near coast.
- Proof of concept.

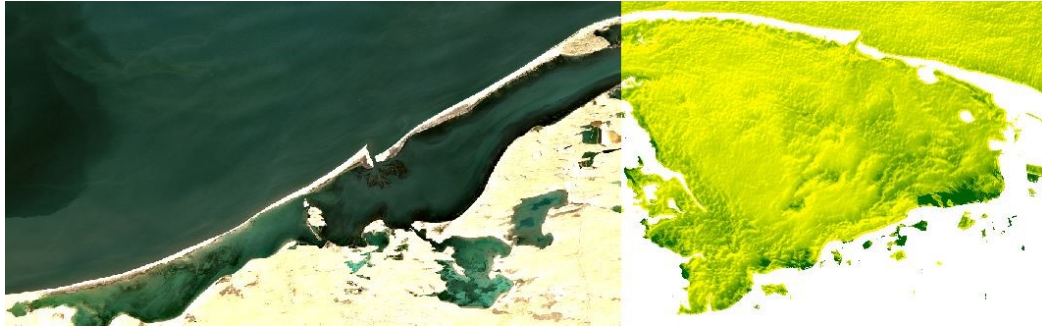


Figure: (A) Pre-Processing Satellite image for Lake of Bardawell, (B) Triangular irregular networks (TIN) Model for Empirical Bathymetry

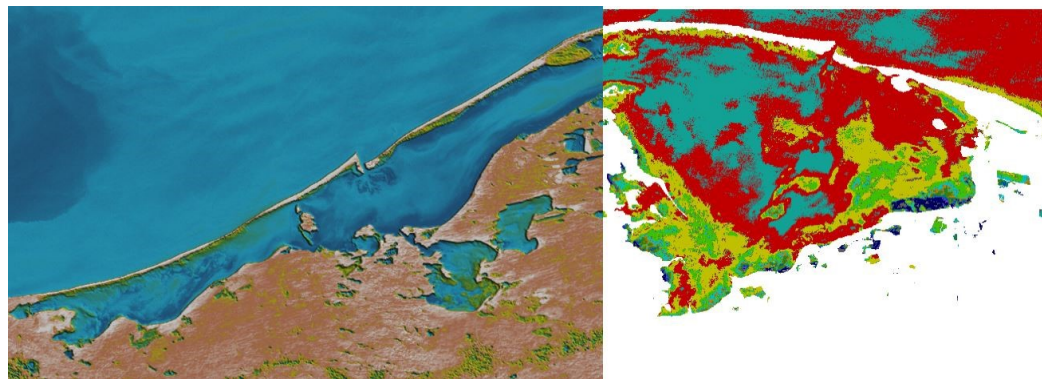


Figure: (A) processed Satellite imagery and preparing it for final Product, (B) Final product as a Satellite derived bathymetry of Lake of Bardawell.

a bathymetric data using available satellite imageries have been produced, Available boghaz tracks also used for crowdsourced bathymetry turnaround SDB has been generated a shallow-water bathymetric data down to 10m depth in a dense spatial grid for a total area.

3. New charts & updates:

As mentioned before in our national report to the 21st MBSHC meeting, ENHD's 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 Sharafib 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

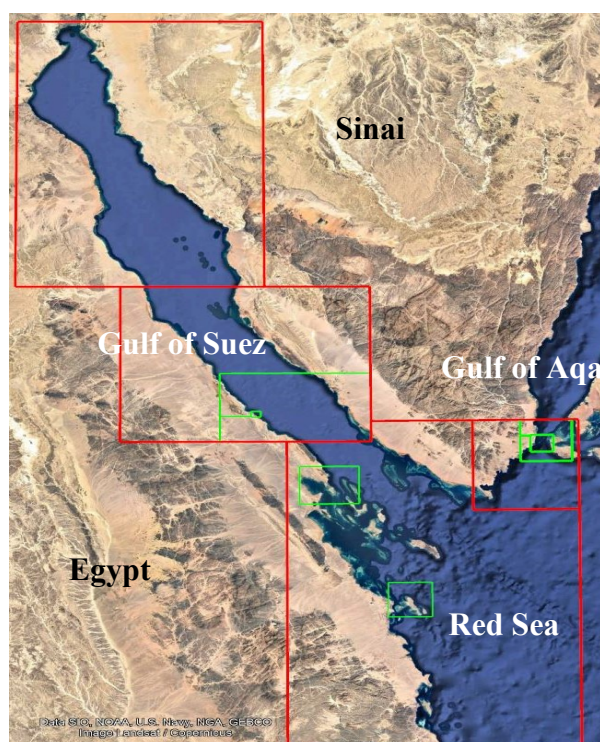


Figure: New Coverage of EG ENCs in 2020

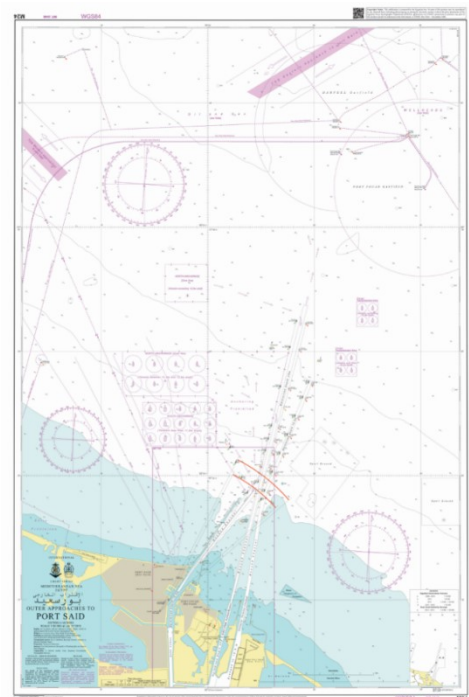
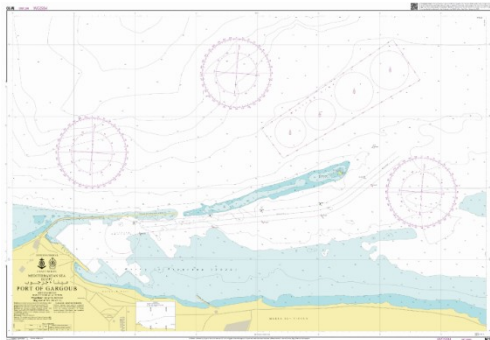
ENC distribution method.

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 Dekheila	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.

Other charts, e.g. for pleasure craft.

Fleet Club Marina, Chart & ENC EG6MROSA had been produced as the first EG leisure Chart and ENC

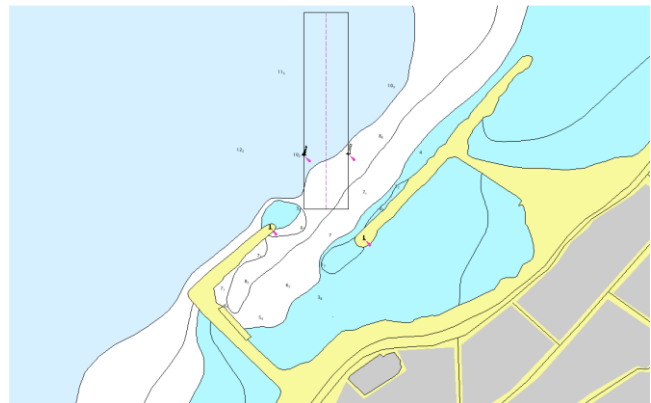
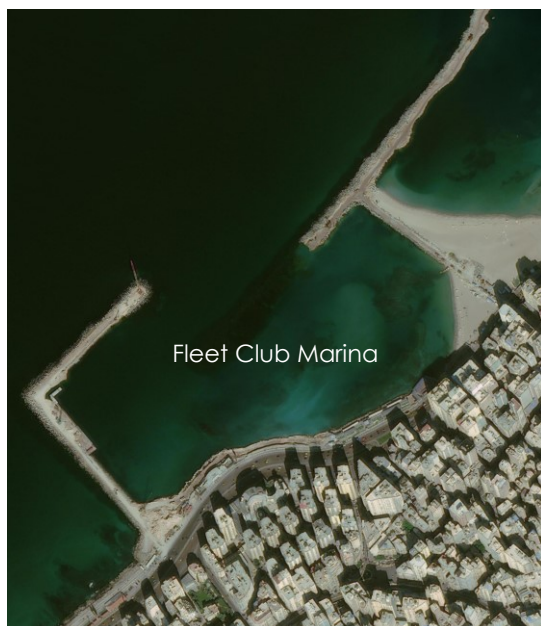


Figure: ENC EG6MROSA

Challenges and achievements

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



Figure: New INT Charts being printed at ENHD Print house

🚧 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

5. **MSI: Existing infrastructure for MSI dissemination.**

a) **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), Egypt ensure timely dissemination of MSI by robust national Maritime Safety Information infrastructure through active 3 NAVTEX stations located at (Alexandria, Kosseir, and Ismailia) are transmitting MSI warnings in English on 518 & 490 KHz.

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

7. **Capacity Building:**

Training received:

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

8. **Oceanographic activities:**

General: ENHD in cooperation with National Institute For Oceanography & Fisheries, Coastal Research Institute and Survey Research Institute (SRI) are in full integration to provide the oceanographic data according to the international standards

9. Spatial data infrastructures: Status of MSDI.

Policies are under development for implementation by 2025

10. Other activities:

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.

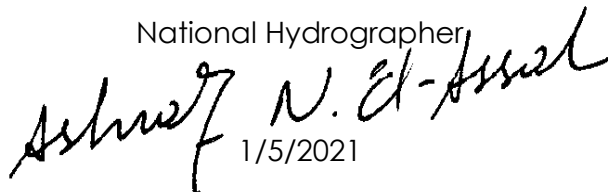
Rear Admiral Dr./

Ashraf Nabil EL-Assal

Director

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1/5/2021