EGYPT
NATIONAL REPORT

to the
16TH North Indian Ocean Hydrographic Commission
(NIOHC) CONFERENCE

Chittagong/Bangladesh
14 - 16 March 2016

This report posted on the ENHD website
(see www. → About Us → → ENHD National Report)
and describes EGYPT's activities of direct relevance to the NIOHC region.
www.ENHD.com

EGYPT
NATIONAL REPORT

1. Hydrographic Office / Service:

The Egyptian Navy Hydrographic Department (ENHD) was established in 1920, 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 one of the leading participants in the field of hydrography, and serving in the provision of the hydrographic services to both military and civilian 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 Red seas.

ENHD`s Experience has been gained by over 50 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 equipment and software to ensure reliable and consistent hydrographic service.

Considering the missions of ENHD, and in order to grant the highest possible service efficiency, it is 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 data base. Also used to ensure the safety of surface navigation and the protection of the marine environment.
- Nautical 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 publications
- Maintaining and repairing navigational equipment.

2. Surveys:

2.1 Coverage of new surveys:

- Extensive surveys has been conducted in the area of responsibilities of ENHD along the coastline of EGYPT on the Mediterranean and red sea down to latitude 22 Degree north, such as routine approaches and passages route lines Multibeam check survey to the Egyptian ports for the propose of paper charts and ENC,s updates.

- ENHD has a Joint Coordination with Suez Canal Authority and Egyptian River Transport Authority (RTA) to establish fresh hydrographic database executed by both authorities for the propose of ENC,s production for suez canal and inland ENC,s for river Nile by ENHD.
- ENHD is maximizing bathymetric data by coordinating with private sector conducting seismic surveys in the concession areas contained in the Egyptian Exclusive Economic Zone in order to get benefit of covering uncharted areas included in the areas of ENHD charting responsibility.
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2.2 New technologies and /or equipment

ENHD has a complete set of modern and high end surveying equipment/ technologies with continuous upgrading to fulfill the survey requirements and meet IHO related standards

2.2.1 New technologies:

Recently ENHD has upgraded most of the software packages used in data gathering and processing also obtained a new package for ENC and paper chart production last year.

2.2.2 New Equipment:

- Ultra High Frequency Multi Beam Echo sounder (0-300m shallow water).
- Digital Side Scan Sonar.
- ROV (Sea Rover) with medium/low depth capabilities.
- Sub bottom profiler combined system with Side Scan Sonar.
- Magnetometer.
- HPR

New ships:

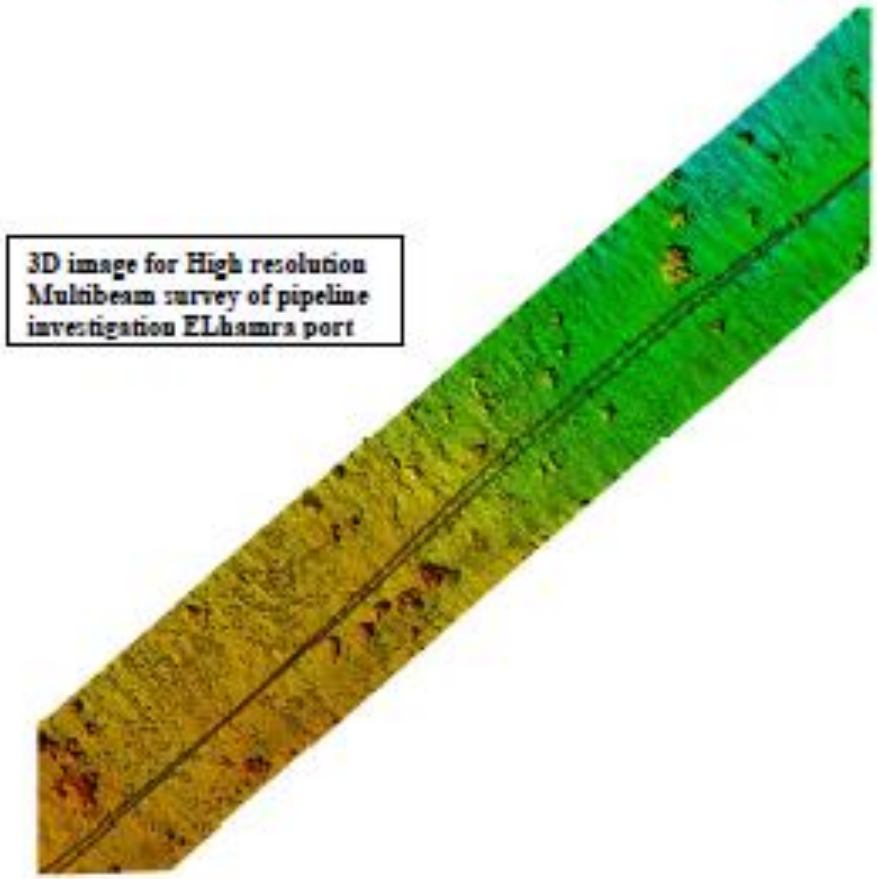
- Oceanographic ship 3D seismic capabilities (contracting).

Processing System/ Software:

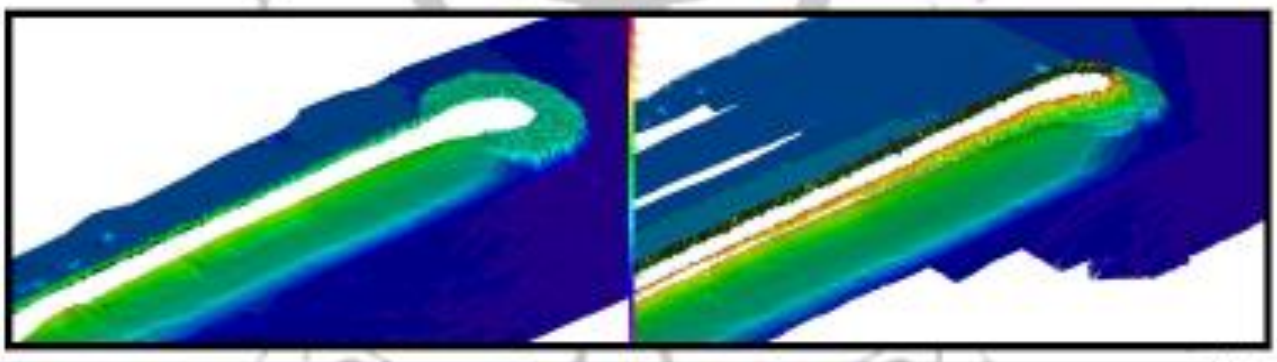
- The ENHD has acquired full digital capability

2.3 Problems encountered

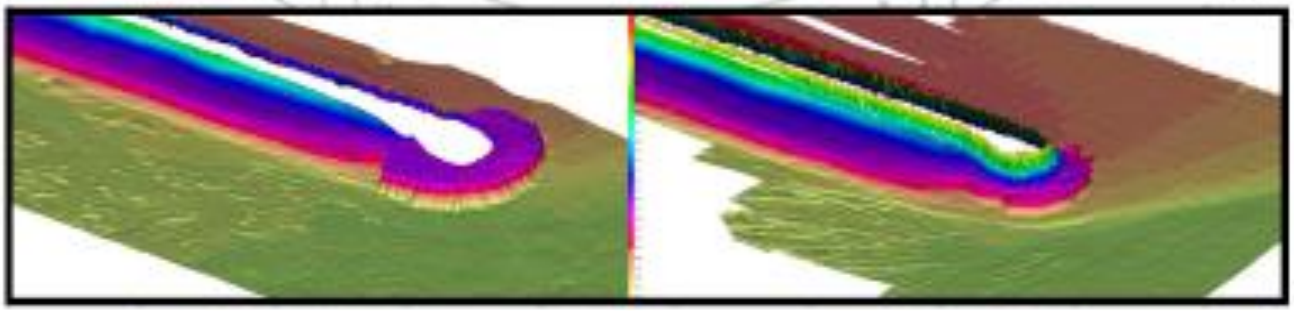
- Nil



3D image for High resolution Multibeam survey of pipeline investigation ELhamra port



3D image for High resolution Multibeam survey of IDKU LNG port breakwater investigation



3. New charts & updates:

3.1 ENCs

ENHD has produced a total of 25 cells with different bands which covered Egypt main and secondary ports on the Mediterranean Sea , included according to a contract with the Suez Canal Authority ENHD recently produced 8 cells in a harbor band for the suez canal including the new bypass channel.

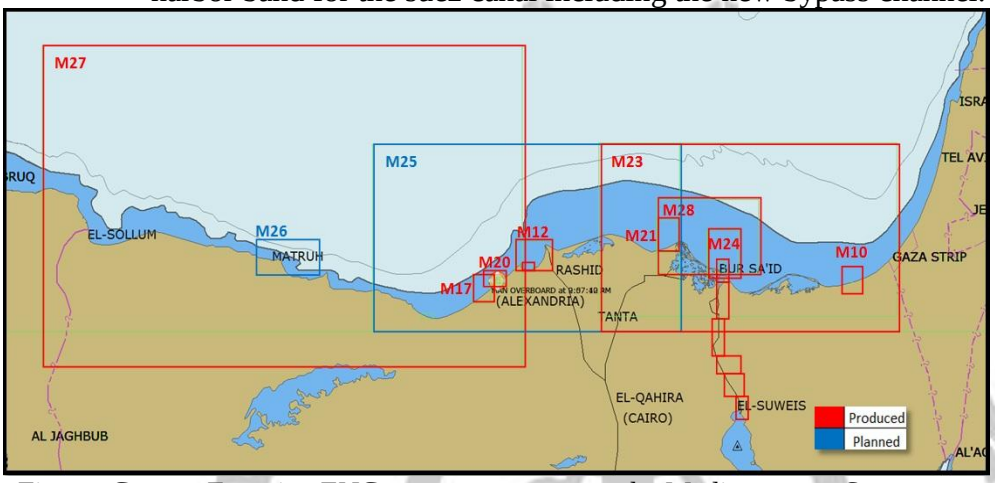
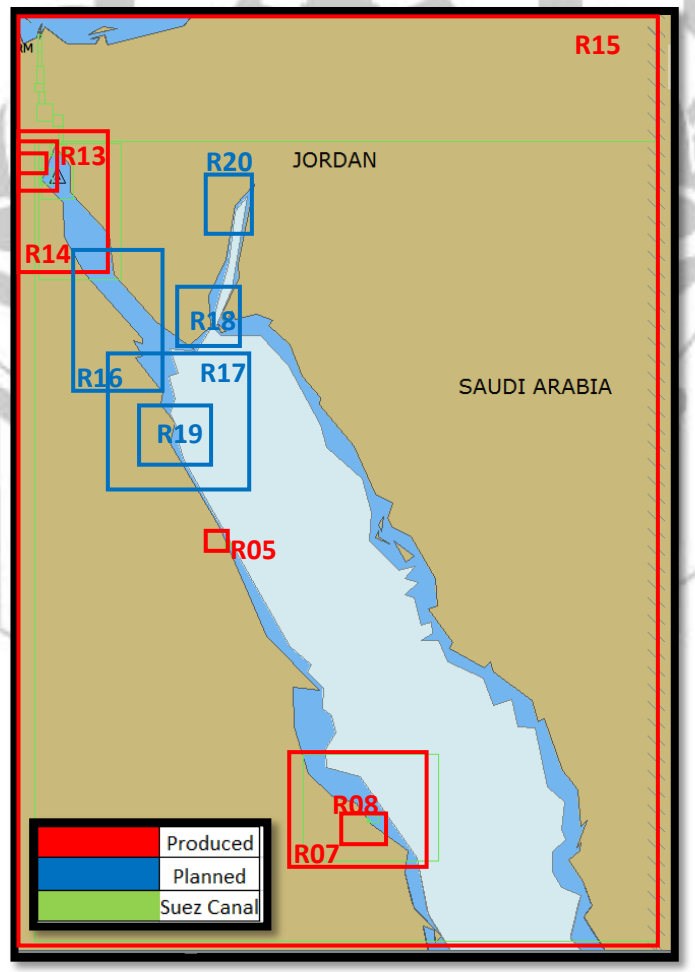


Figure: Current Egyptian ENCs coverage status on the Mediterranean Sea.



ENHD ENCs Coverage Planning For Mid & Red Sea 2015

No.	Cell No	Name	Scale	Band	Sea	code	GB cell	scale	Note
Planned to be validated and distributed in 2015									
1	M22	Port Said (Bur Said to Km 13)	1:22,000	5	Mideterranean	EG5EGM22	GB 53254A	1:22000	Validated & Distributed
2	R11	Southern approach to Suez Canal	1:12,000	5	Red Sea	EG5EGR11	GB 54002C	1:12000	
3	SC1	El Shalofa (Km 135 to Km 156)	1:8,000	5	Suez Canal	EG5EGSC1	GB 53264B	1:45000	
4	SC2	Kabrit (Km 118 to Km 134)	1:8,000	5		EG5EGSC2			
5	SC3	Bitter Lake (Km 99 to Km 117)	1:8,000	5		EG5EGSC3			
6	SC4	Toson (Km 84 to Km 98)	1:8,000	5		EG5EGSC4			
7	SC5	El Timsah (Km 73 to Km 83)	1:8,000	5		EG5EGSC5			
8	SC6	El Ferdan (Km 51 to Km 72)	1:8,000	5		EG5EGSC6			
9	SC7	Al Qantra (Km 33 to Km 50)	1:8,000	5		EG5EGSC7			
10	SC8	El Tina (Km 14 to Km 32)	1:8,000	5		EG5EGSC8			
11	SC9	Suez Canal	1:45,000	4		EG4EGSC9			
12	M24	Approaches to Port Said	1:45,000	4	Mideterranean	EG4EGM24	GB 43264C	1:45,000	
13	M28	Dumiat to Port Said	1:90,000	3	Mideterranean	EG3EGM28	GB 332640	1:90,000	
14	M17	SUMID PORT	1:22,000	4	Mideterranean	EG5EGM17	None		
15	M12	Abu Qir Bay	1:45,000	3	Mideterranean	EG5EGM12	None		
16	R13	Adabia to Ras Abueldarag	1:45,000	3	Red Sea	EG3EGR13	None		
17	R06	Port Ghalib	1:4,000	6	Red Sea	EG6EGR06	None		Work in progress
18	M20	ALEXANDRIA - DEKHIELA	1:22,000	4	Mideterranean	EG4EGM20	None		
19	M21	DUMIAT PORT	1:22,000	4	Mideterranean	EG5EGM21	GB 53264D	1:22000	
20	R05	Approaches to Port Ghalib	1:22,000	4	Red Sea	EG4EGR05	None		
Planned to be validated and distributed in 2015									
21	M18	ALEXANDRIA PORT	1:12,000	5	Mideterranean	EG5EGM18	GB 53244B	1:12000	Planned
22	M19	DEKHIELA PORT	1:8,000	5	Mideterranean	EG5EGM19	None		
23	R12	Ain Elsokhna Port	1:22,000	4	Red Sea	EG5EGR12	GB 64002F	1:22000	
24	R7	SHALATIN TO HALAIB	1:180,000	3	Red Sea	EG3EGR07	None		
25	R8	APPROACHES TO ABURAMAD	1:15,000	5	Red Sea	EG5EGR08	None		

	Validated
	Under Validation
	Under Construction
	Planned

3.1.1.1 Usage bands:

Band
Overview (1)
General (2)
Coastal (3)
Approach (4)
Harbor (5)
Berthing (6)

3.1.2 Suez Canal Catalogue:

No:	Chart Name		Scale	Band	Code
1	SC1	SUEZ CANAL	1:8,000	5	EG5EGSC1
2	SC2				EG5EGSC2
3	SC3				EG5EGSC3
4	SC4				EG5EGSC4
5	SC5				EG5EGSC5
6	SC6				EG5EGSC6
7	SC7				EG5EGSC7
8	SC8				EG5EGSC8
9	SC9		1:45,000	4	EG4EGSC9

3.1.3 Red Sea Catalogue:

RED SEA CATALOUGE					
1	R5	APPROACHES TO PORT GHALEB	1:12,500	5	EG5EGR05
2	R6	PORT GHALEB	1:2,000	6	EG6EGR06
3	R7	SHALATIN TO HALAIB	1:180,000	2	EG3EGR07
4	R8	APPROACHES TO ABURAMAD	1:15,000	5	EG4EGR08
5	R10	Abu Ramad	1:2,000	6	EG6EGR10
6	R11	Southern approach to Suez Canal	1:22,000	4	EG4EGR11
7	R12	Ain Elsokhna Port	1:25,000	4	EG4EGR12
8	R13	Adabia to Ras Abueldarag	1:50,000	3	EG3EGR13
9	R14	Gulf of Suez	1:150,000	3	EG3EGR14
10	R15	Red Sea	1:1000,000	2	EG2EGR15

3.2 ENC Distribution method

In order to ensure consistency, reliability ,availability and seamless Egyptian ENC,s in high quality under the umbrella of IHO , ENHD has contracted with Regional ENC Coordinating Centre (IC-ENC) last year.

3.3 RNCs

- ENHD doesn't produce RNCs.

3.4 INT charts

ENHD proceeded to link The Egyptian national chart scheme to the International (INT) chart scheme of the region as follows:

Three new INT charts has been included in the NIOHC Scheme since last commission conference

Producer	*National No:*	*Chart Name*	*Date*		*Scale 1:*	*Format*
			Publication	*New edition*		
	R11	SUEZ PORT	September 2015	-	20,000	
	SC01	SUEZ CANAL	July 2015	-	40,000	
	SC02		July 2015	-	40,000	

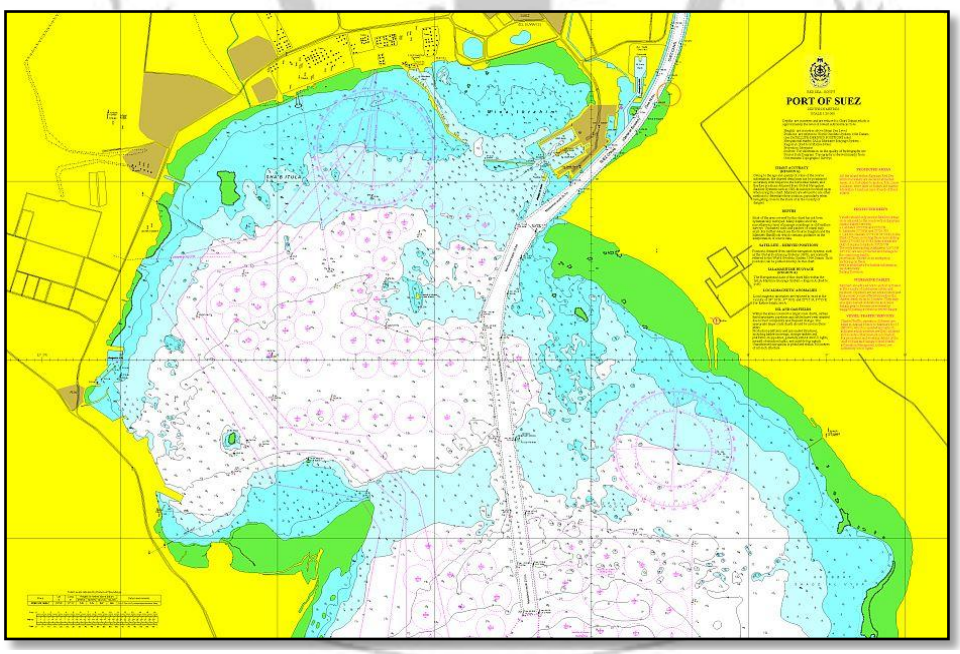


Figure: Chart R11, Port of Suez.

3.5 National paper charts

ENHD has produced a number of 38 local paper charts for the Egyptian waters since 1986.

CHART NUMBER	CHART NAME	SCALE	PRODUCTION DATE
M1	DUMIAT PORT	1:40,000	1986
M2	DEKHIELA PORT	1:10,000	1986
M3	ALEXANDRIA PORT	1:10,000	1988
M4	ABU QIR - AMONIA	1:25,000	1990
M5	ABU QIR BAY	1:25,000	1992
M6	DEKHIELA PORT	1:5,000	1994
M9	EL ARISH PORT	1:5,000	1996
M10	EL ARISH PORT	1:2,500	1996
M11	ABU QIR - MAADIA	1:25,000	1999
M12	IDKU	1:50,000	2005
M13	IDKU (LNG)	1:20,000	2005
M14	ABU QIR PORT	1:15,000	2005
M15	MAADIA PORT	1:10,000	2006
M16	RASHID - EL ALAMIN	1:175,000	2007
M17	SUMID PORT	1:30,000	2007
M18	ALEXANDRIA PORT	1:10,000	2007
M19	DEKHIELA PORT	1:7,500	2007
M20	ALEXANDRIA - DEKHIELA	1:27,500	2008
M21	DUMIAT PORT	1:40,000	2008
R1	RAS MUHAMED	1:20,000	1988
R2	NUWEBAA	1:7,500	1995
R3	NUWEBAA	1:2,500	1995
R4	SHARM ELSHEIKH	1:5,000	2000
R5	APPROACHES TO PORT GHALEB	1:12,500	2010
R6	PORT GHALEB	1:2,000	2010
R7	SHALATIN TO HALAIB	1:180,000	2010
R8	APPROACHES TO ABURAMAD	1:15,000	2012
R10	Abu Ramad	1:2,000	2013
R11	Southern approach to Suez Canal	1:20,000	2013
R12	Ain Elsokhna Port	1:25,000	2013
R13	Adabia to Ras Abueldarag	1:50,000	2013
R14	Gulf of Suez	1:150,000	2013
R15	Red Sea	1:1000,000	2014

3.6 Other charts, e.g. for pleasure craft

ENHD has produced a pleasure chart for Port Ghaleb resort, Red Sea, in 2010

3.7 Problems encountered

Egypt's got a dramatic long coastline on the Mediterranean, the Red Sea and around the Peninsula of Sinai in addition to its EEZs waters. Although Egypt started surveying and charting its territorial waters long ago, still a considerable portion of it needed to be resurveyed and charted according to the latest IHO standard.

4. New publications & updates:

4.1 New Publications

- ENHD is working on producing a new updated sailing direction book for Egypt's ports.

4.2 Updated publications

- Nil

4.3 Means of delivery, e.g. paper, digital

- Nil

4.4 Problems encountered

- Nil

5. *MSI*

5.1 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 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 KHz

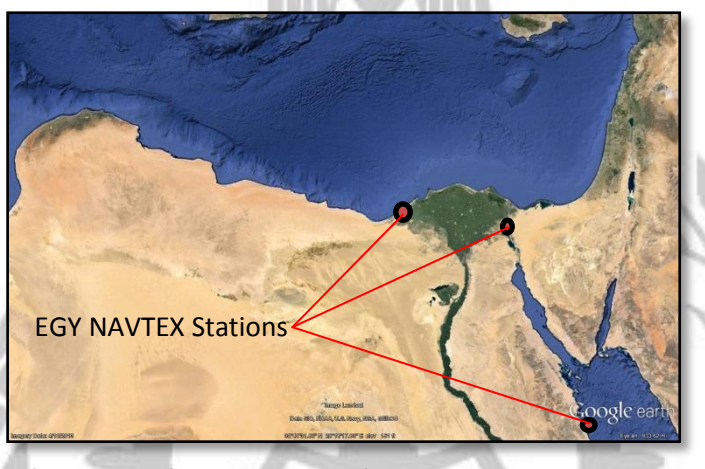


Figure: Egyptian NAVTEX stations

ENHD has coordinated with Egyptian Maritime safety Authority (MSA) to forward MSI directly to NAVAREA III coordinator via E-Mail: hydro@enhd.gov.eg to ensure effective timely promulgation of MSI.

KHz:	*Call*	*Station Name:*	*Range nm:*	*Transmission Times-All UTC:*						*Area*
518.0	SU H	Alexandria	350	0210	0610	1010	1410	1810	2210	3
518.0	SU K	Kosseir	350	0330	0730	1130	1530	1930	2330	9
518.0	SUZ	Ismailia	400	0350	0750	1150	1550	1950	2350	9

5.2 New infrastructure in accordance with GMDSS Master Plan

- Nil.

5.3 Problems encountered

- Nil.

6. *S-55*

➢ In progress based on the latest status of data coverage.

7. *Capacity Building*

7.1 Training received, needed, offered

7.1.1 Training received (2014):

- MSI course held in Muscat.
- Multibeam course held in India.

7.1.2 Needed training (2016):

- Cat A Hydrography Programme (USM).
- MSI (training on establishment of MSI structure and basic MSI procedures).
- Advanced ENC Production.
- Multibeam Sonar Training Course.
- Technical aspects of maritime boundaries, baselines.

7.2 Status of national, bilateral, multilateral or regional development projects with hydrographic component. (In progress, planned, under evaluation or study)

- The national project of Suez Canal new Bi-pass(Has just been accomplished)
- Dumyat port international logistic center.
- El Arish port.

7.3 Definition of bids to IHOCBC

- Nil.

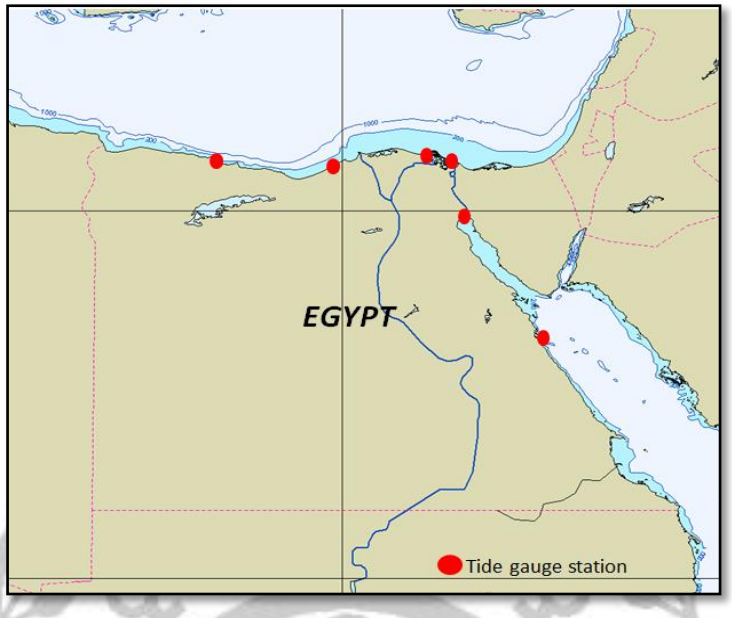
8. *Oceanographic activities*

- Tide gauge network

The geodetic vertical datum in Egypt has been set as the MSL at Alexandria port, based on daily readings of high and low water level during the years 1898 to 1906. Globally, research studies revealed that the sea level is rising in last decade. In 2001, A joined Co-operation between ENHD and Survey Research Institute (SRI) has installed a state-of-the-art sea level observing system at Mersa Matrouh ,Alexandria, Dumiat and Portsaid on the Mediterranean sea, which consists of three devices integrated together in a unified scheme:

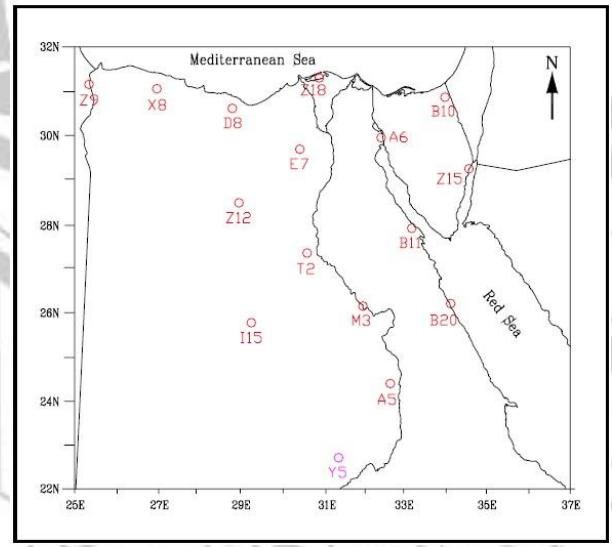
- Tide gauge
- Metrological unit,
- Satellite-based GPS geodetic receiver.

Heterogeneous datasets have been collected and analyzed for a number of tide gauge stations for the precise redefinition of the Egyptian vertical datum. In addition, a leveling network has been established and several observation kinds, e.g. gravity, GPS, and meteorological data, have been collected and processed in order to investigate the enhancement of the vertical control networks in Egypt.



9. ***Other activities***

- Magnetic/Gravity surveys
  Several gravity observations have been collected and processed in order to investigate the enhancement of the vertical control networks in Egypt.



Figure; High Accuracy Reference Network HARN

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