

ENHD





ENHD

- The ENHD following by the chain of command the Egyptian Naval HQ.
- Considered one of the oldest and the most experienced hydrographic office in the region (since 1920).
- ENHD is the official representative for EGYPT to the IHO (international Hydrographic Organization).
- Member in the Mediterranean and Black sea hydrographic commission & NIOHC (North Indian Ocean Hydrographic Commission).





ENHD Chain of Command





Hydrographic Branch Chain of Command





Responsibilities

- **Provide Hydrographic security for the Egyptian fleet.**
- **Achieve efficient and safe Maritime Transport.**
- **Coastal zone management.**
- **Exploration and Exploitation for marine recourses.**
- **Marine science.**
- **Maritime Boundary Delimitation.**
- **Nautical and Electronic charts production for the Egyptian Territorial waters.**
- **Technical approval and supervision for the International Surveying companies working in the Egyptian waters.**
- **Maritime safety information (MSI) responsibility?**



Capacity Building

- Two ENHD members have joined the capacity building program in 2014.
- An MSI course held in Muscat and a multibeam course held in India.



Capabilities to achieve responsibilities

- **Highly qualified personnel.**
- **Hardware – Software for the purpose of:**
 - **Hydrographic Surveying.**
 - **Nautical Chart production.**
 - **ENC production.**
 - **Provide Marine Safety Information and Aids to Navigation.**
 - **Provide scientific information for economic commercial purposes.**





ENHD Team Qualifications

A group of the most professional hydrographic surveyors who had deep and great experience in this field will run and control both field and office works... their qualification are as following:

- Bachelor degree in marine science and technology.
- All local basic and advanced courses in navigation science.
- Basic and advanced (Cat A, Cat B) Hydrographic survey courses in the United State of America.
- Basic and advanced (Cat A, Cat B) Hydrographic survey courses in the United Kingdom (HMS).
- Basic Hydrographic survey courses in Italy (IMA).
- Hydrographic Data Management courses in Italy (IMA).
- Advanced Cartography Course in Italy (IMA).
- Arial Photogrametry and remote sensing courses in (NASA) United State of America.
- Master Degree in Hydrographic survey and Chart Production.
- A. courses in (ENC) Electronic Navigation Chart production.





Egyptian Navy Survey squadron

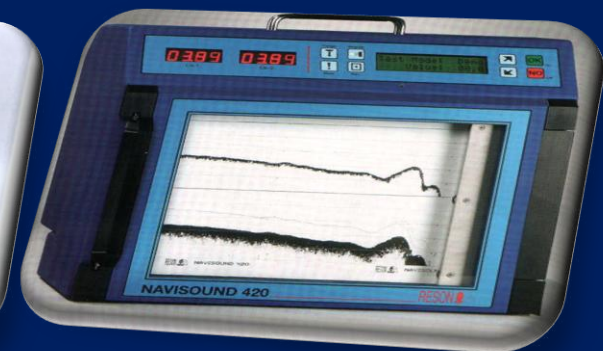
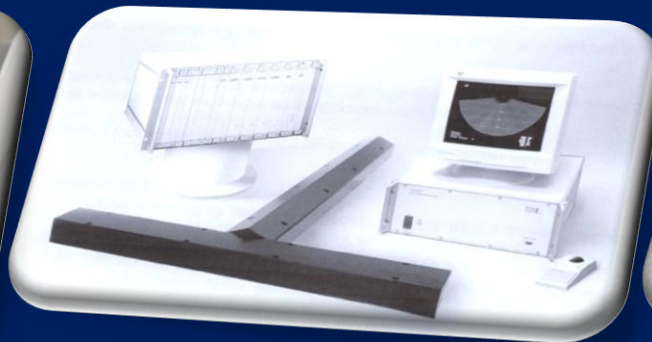
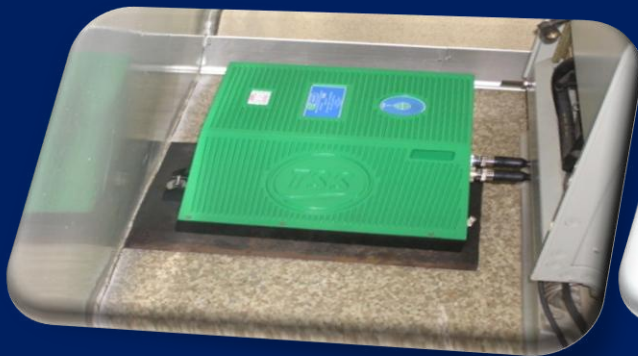
- Two Route Survey Vessels.
- Two survey Motor Boats.
- Three Zodiacs.
- Oceanographic ship (contracting).



Equipment onboard

Sounding

- Single beam Echo sounder (single frequency).
- Single beam Dual frequency Echo sounder.
- High Frequency Multi Beam Echo sounder (0-300m shallow water).
- Low Frequency Multi Beam Echosounder (5-3000m deep water).
- MAHRS Motion sensor.



Equipment onboard

Bottom Depiction (Bottom obstacles detection and definition)

- Digital Side Scan Sonar.
- ROV (Sea Rover).
- Sub bottom profiler.
- Magnetometer.
- HPR



Equipment onboard

Positioning

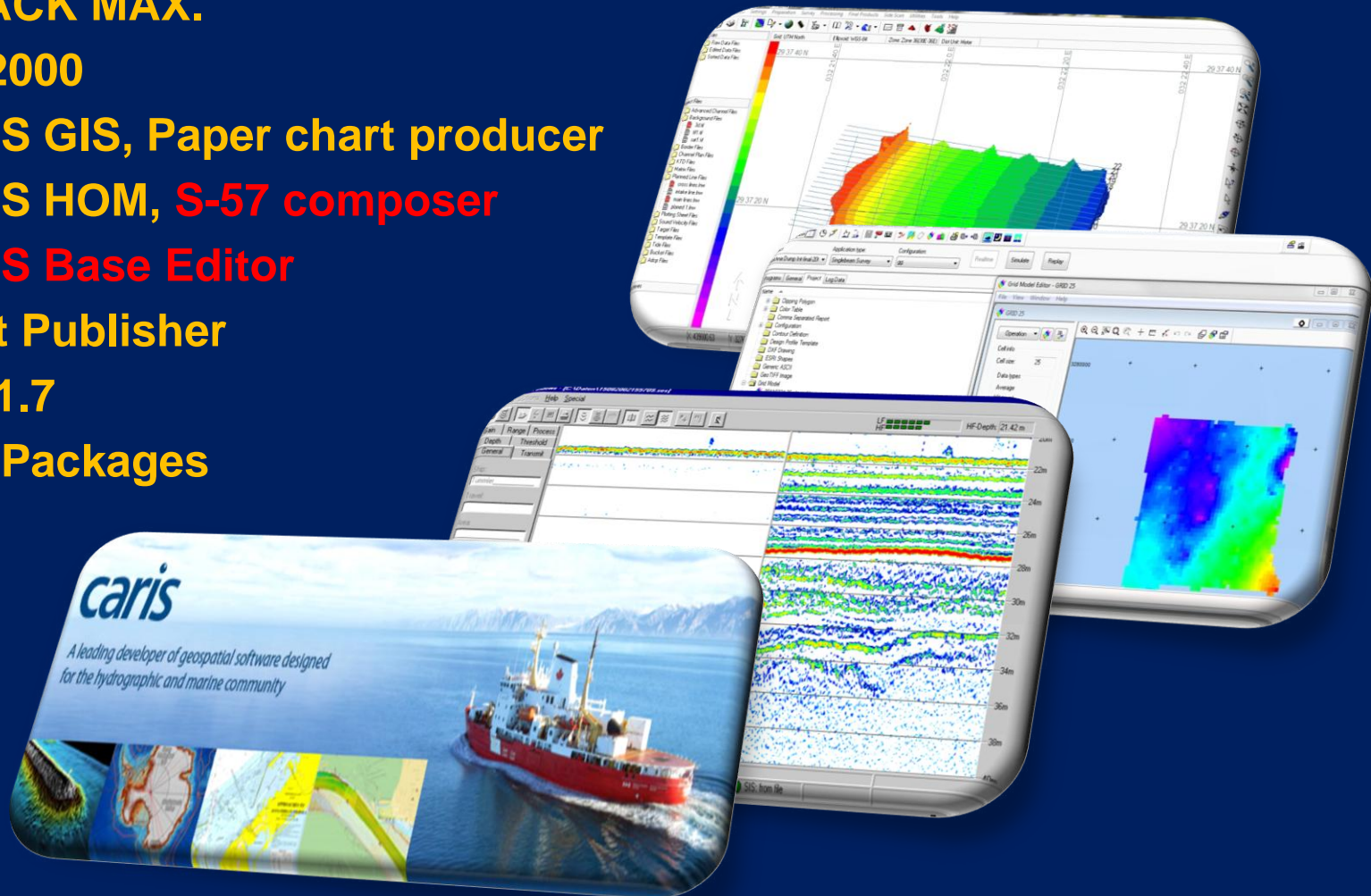
- DGPS (Beacon correction-EGNOS corrections).
- HP (OMNISTAR correction).
- RTK. High Precision.
- Micro-fix.





SOFTWARE

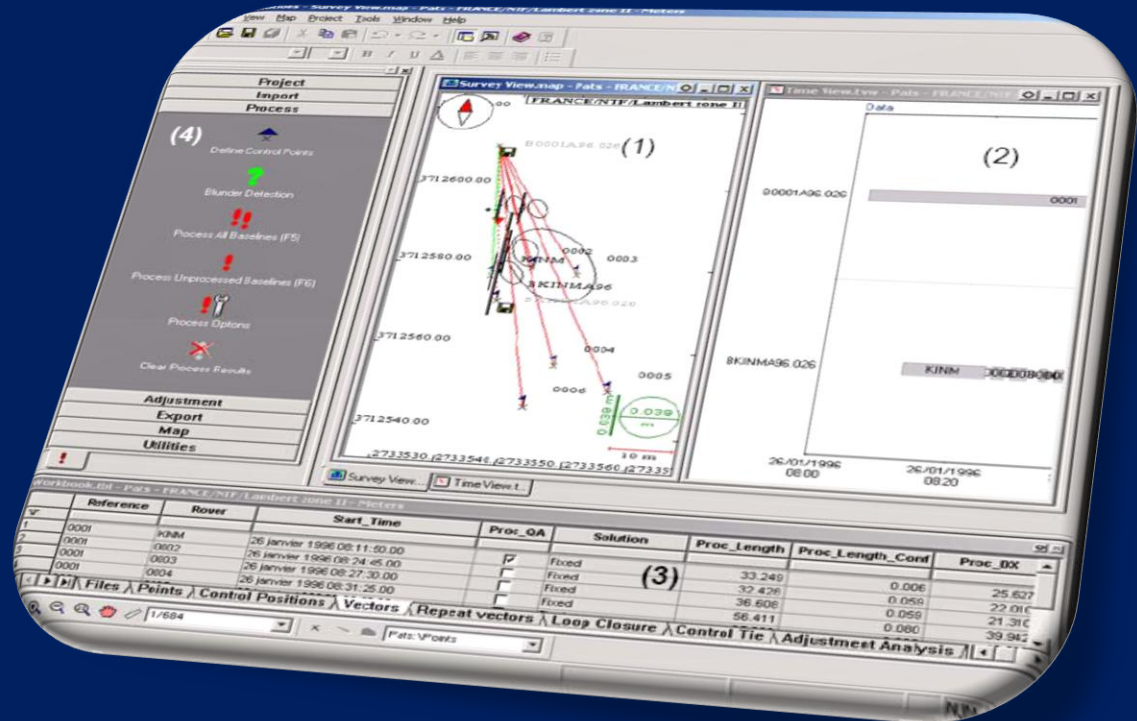
- HYPACK MAX.
- PDS2000
- CARIS GIS, Paper chart producer
- CARIS HOM, S-57 composer
- CARIS Base Editor
- dKart Publisher
- SES 1.7
- CAD Packages





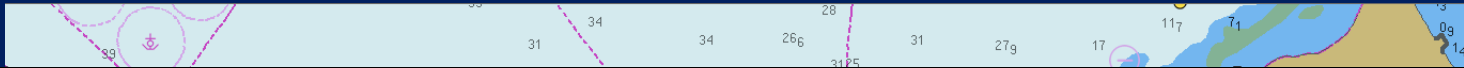
SOFTWARE

- TRITON imaging
- Target pro
- ISIS sonar.
- Sonar pro
- THALES Navigation
- GNSS Solution.
- Fast Survey.

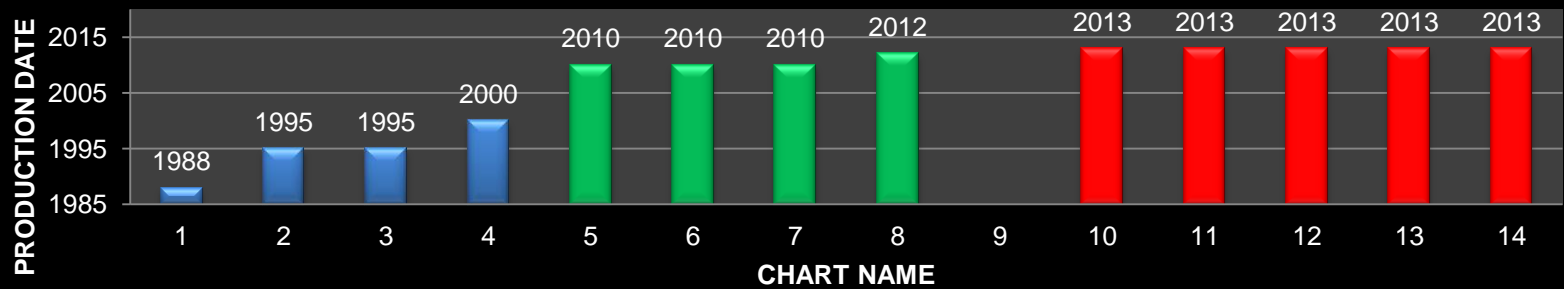




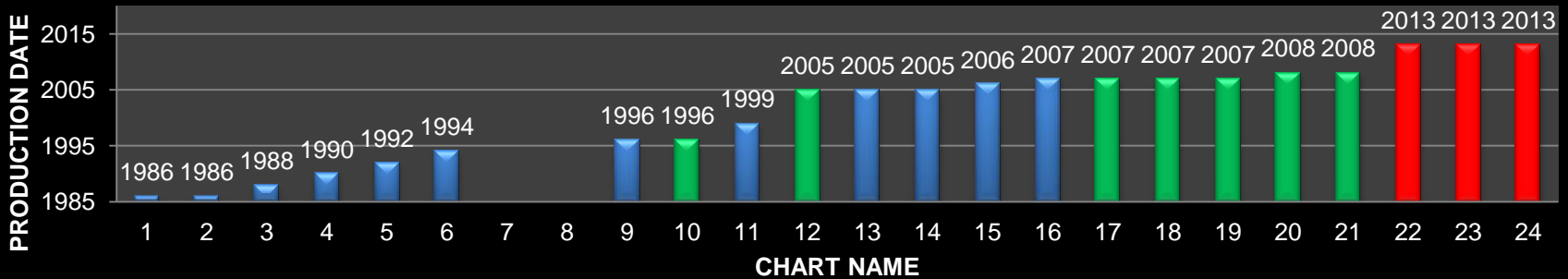
ENC Production Division



RED SEA CHART PRODUCTION HISTOGRAM



MED SEA CHART PRODUCTION HISTOGRAM





EGYPTIAN HYDROGRAPHIC DEPARTMENT





ENC Scale Bands

The S-57 ENC Product Specification does not provide guidance on the appropriate scales ranges to be used for each of the 6 Navigational Purposes, however ENHD uses the following table as a guidance for producing its regional ENCs.

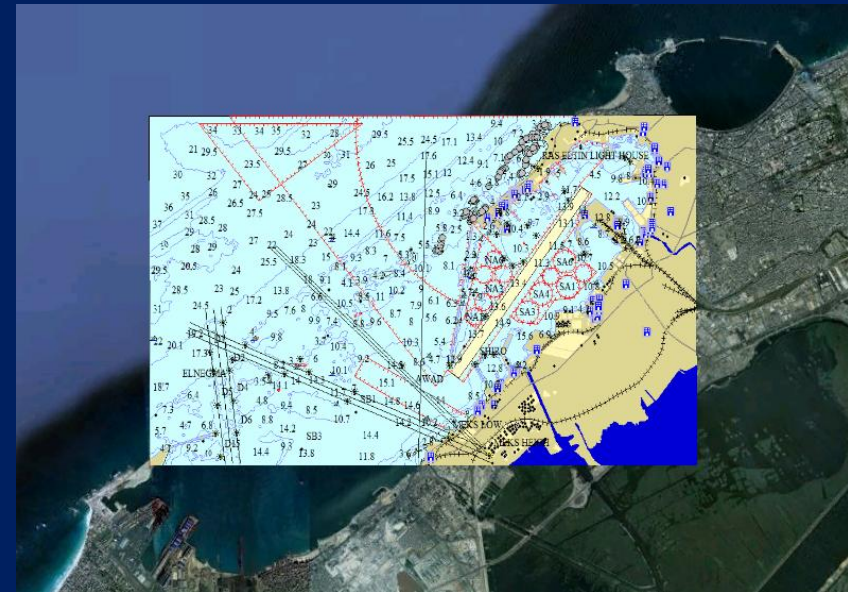
Usage Band	Name	Scale Range	Available Compilation Scales
1	Overview	<1:1499999	3000000 1500000
2	General	1:180000 – 1:1499999	700000 350000 180000
3	Coastal	1:45000 – 1:179999	90000 45000
4	Approach	1:22000 – 1:44999	22000
5	Harbour	1:4000 – 1:21999	12000 8000
6	Berthing	> 1:4000	4000 and larger

S57 Appendix B1 Annex A





EGYPTIAN HYDROGRAPHIC DEPARTMENT





MIDTERRANEAN SEA CATALOGUE

CHART NUMBER	CHART NAME	SCALE	PRODUCTION DATE	ENC
M1	DUMIAT PORT	1:40,000	1986	NONE
M2	DEKHIELA PORT	1:10,000	1986	NONE
M3	ALEXANDRIA PORT	1:10,000	1988	NONE
M4	ABU QIR - AMONIA	1:25,000	1990	NONE
M5	ABU QIR BAY	1:25,000	1992	NONE
M6	DEKHIELA PORT	1:5,000	1994	NONE
M7	None	None	None	None
M8	None	None	None	None
M9	EL ARISH PORT	1:5,000	1996	None
M10	EL ARISH PORT	1:2,500	1996	EG5ARISH
M11	ABU QIR - MAADIA	1:25,000	1999	None
M12	IDKU	1:50,000	2005	EG5EGM12
M13	IDKU (LNG)	1:20,000	2005	NONE
M14	ABU QIR PORT	1:15,000	2005	NONE
M15	MAADIA PORT	1:10,000	2006	NONE
M16	RASHID - EL ALAMIN	1:175,000	2007	NONE
M17	SUMID PORT	1:30,000	2007	EG4EGM17
M18	ALEXANDRIA PORT	1:10,000	2007	EG5EGM18
M19	DEKHIELA PORT	1:7,500	2007	EG5EGM19
M20	ALEXANDRIA - DEKHIELA	1:27,500	2008	EG4EGM20
M21	DUMIAT PORT	1:40,000	2008	EG4EGM21
M22	Port Said	1:25,000	2013	EG4EGM22
M23	Elborolus To Rafah	1:250,000	2013	EG3EGM23
M24	Approaches to Port Said	1:50,000	2013	EG3EGM24
M25		1:400,000	2014	
M26	UNDER PROGRESS	1:400,000	2014	UNDER PROGRESS
M27		1:400,000	2014	
M28	Dumiat to Port Said	1:100,000	2014	EG3EGM28

Band	Number of cells
Overview (1)	0
General (2)	0
Coastal (3)	3
Approach (4)	3
Harbour (5)	4
Berthing (6)	0
Total	10

3 cells under progress





RED SEA CATALOUGE

CHART NUMBER	CHART NAME	SCALE	PRODUCTION DATE	ENC
R1	RAS MUHAMED	1:20,000	1988	NONE
R2	NUWEBAA	1:7,500	1995	NONE
R3	NUWEBAA	1:2,500	1995	NONE
R4	SHARM ELSHEIKH	1:5,000	2000	NONE
R5	APPROACHES TO PORT GHALEB	1:12,500	2010	EG5EGR05
R6	PORT GHALEB	1:2,000	2010	EG6EGR06
R7	SHALATIN TO HALAIB	1:225,000	2010	EG3EGR07
R8	APPROACHES TO ABURAMAD	1:15,000	2012	EG4EGR08
R9	None	None	None	None
R10	Abu Ramad	1:2,000	2013	EG6EGR10
R11	Southern approach to Suez Canal	1:20,000	2013	EG4EGR11
R12	Ain Elsokhna Port	1:25,000	2013	EG4EGR12
R13	Adabia to Ras Abueldarag	1:50,000	2013	EG3EGR13
R14	Gulf of Suez	1:150,000	2013	EG3EGR14
R15	Red Sea	1:1000,000	2014	EG2EGR15

Band	Number of cells
Overview (1)	0
General (2)	1
Coastal (3)	3
Approach (4)	3
Harbour (5)	1
Berthing (6)	2
Total	10

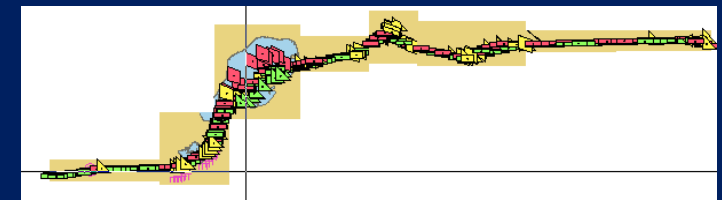
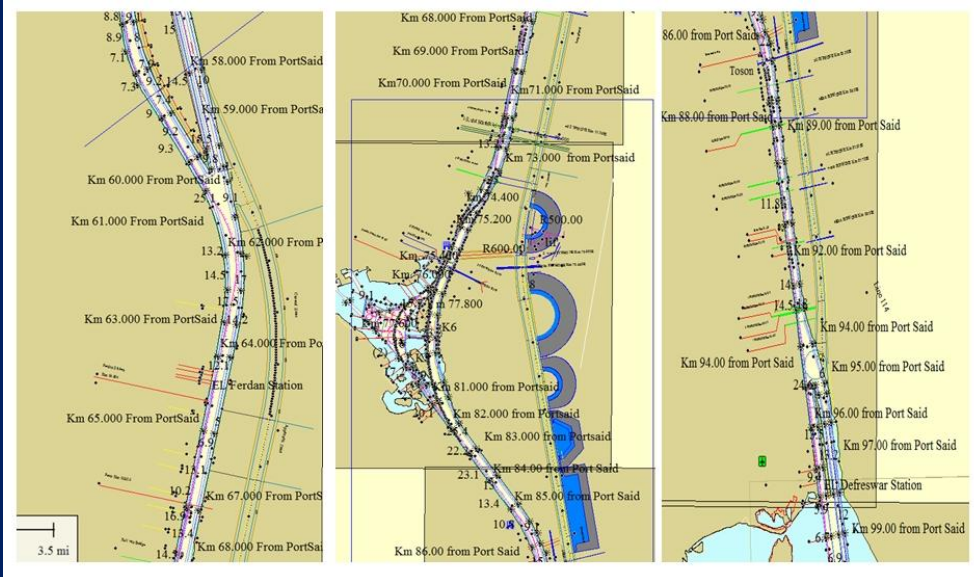




SUEZ CANAL CATALOUGE

CHART NUMBER	CHART NAME	SCALE	PRODUCTION DATE	ENC
SC1	Suez Canal	1:10,000	2013	EG5EGSC1
SC2	Suez Canal	1:10,000	2013	EG5EGSC2
SC3	Suez Canal	1:10,000	2013	EG5EGSC3
SC4	Suez Canal	1:10,000	2013	EG5EGSC4
SC5	Suez Canal	1:10,000	2013	EG5EGSC5
SC6	Suez Canal	1:10,000	2013	EG5EGSC6
SC7	Suez Canal	1:10,000	2013	EG5EGSC7
SC8	Suez Canal	1:10,000	2013	EG5EGSC8

Band	Number of cells
Overview (1)	0
General (2)	0
Coastal (3)	0
Approach (4)	0
Harbour (5)	8
Berthing (6)	0
Total	8

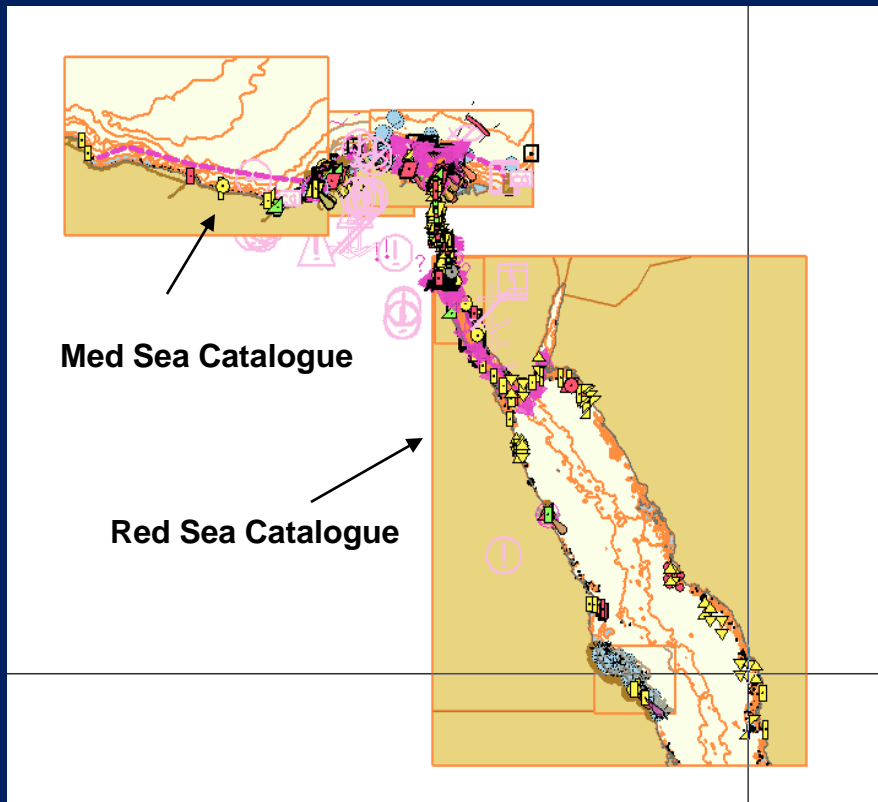


It is planned to reproduce all the cells with the new channel





Over all Coverage





**Thanks
Questions ?**

