



NATIONAL REPORT OF KINGDOM OF SAUDI ARABIA

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Kingdom of Saudi Arabia
www.geosa.gov.sa

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1.

Introduction:

The mission of the Hydrography Department within GEOSA is to build and maintain the capacity to provide adequate, standardized and timely hydrographic data products and services, and to ensure their widest possible use and distribution through structured policy functionalities of Governance, Regulator and Operator.

Saudi Arabia is contained on its western shores by the Red Sea and Gulf of Aqaba. Some of the charts being used in this area are presently based on dated data thus GEOSA has been undertaking hydrographic surveys to produce updated charts. The Kingdom's waters in the Red Sea and Gulf of Aqaba have been fully surveyed.

Since its establishment, GEOSA has surveyed all Saudi Marine Areas in Red Sea and the Gulf of Aqaba and produced ENCs, PNCs and CZMCs¹ at various scales.

2.

Hydrographic Surveys:

New hydrographic surveys were undertaken from 2010 onwards and the plan is to complete surveys of entire Saudi Marine Areas by the year 2030. All the surveys are being done with the latest technology using bathymetric – topographic LiDAR Multibeam Echosounders Side Scan Sonars, Sub-bottom Profilers, Position Fixing Systems and Inertial Navigation Systems, ADCPs, Tide Gauges and allied oceanographic equipment.



The dedicated Hydrographic Survey Vessel (HSV) 'Sultan' is the primary hydrographic survey platform with two hydrographic survey launches onboard. These three platforms are equipped with an extensive suite of hydrographic equipment, sensors and related systems.

3.

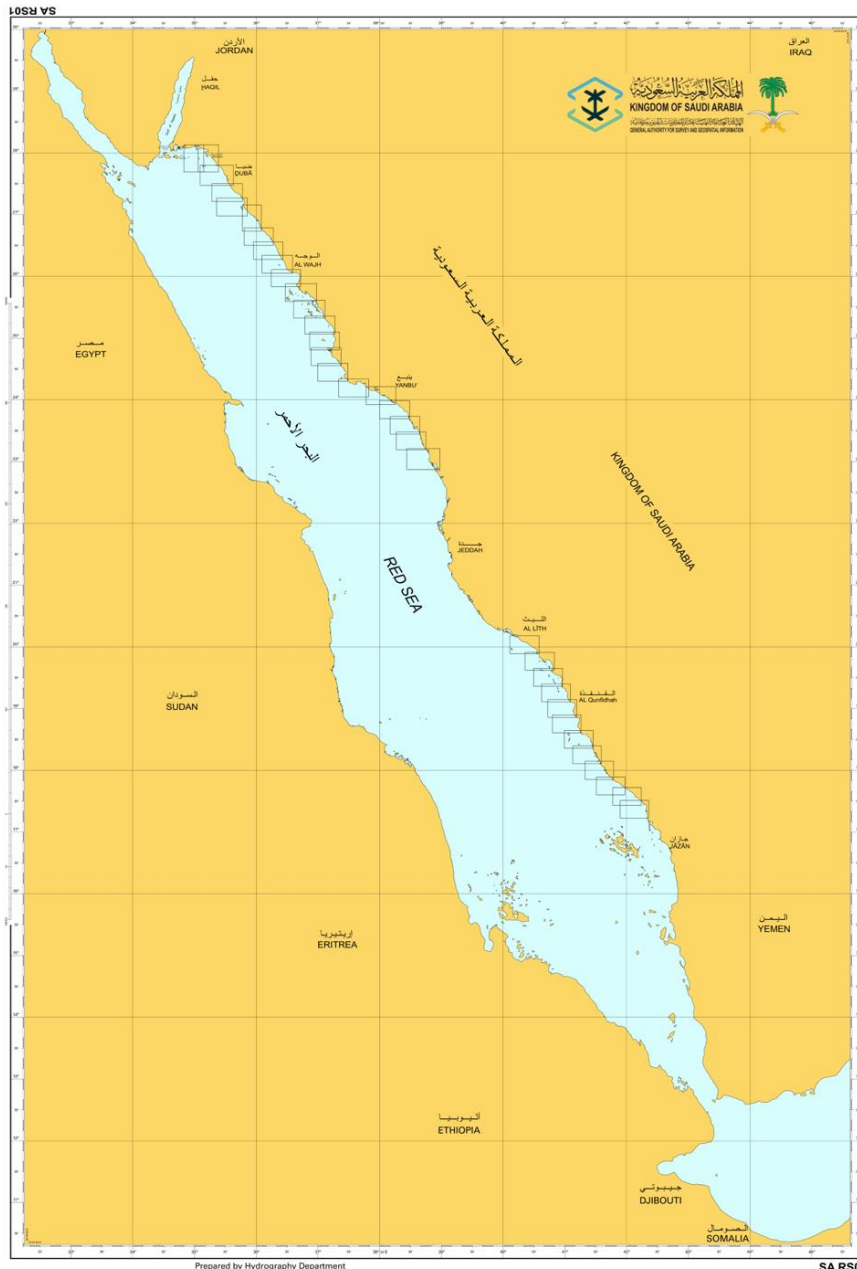
New Charts & Updates:

In the Red Sea and Gulf of Aqaba, the GEOSA designed chart scheme consists of 86 charts to fulfil different navigation purposes namely General Navigation, Coastal Navigation, Approaches to Ports and Port Entry. GEOSA has completed production of these planned 86 PNC and 86 ENC and issued 34 ENC charts. Details of Produced Charts are given at table below.

¹ Coastal Zone Management Charts

Red Sea & Gulf of Aqaba PNC & ENC					
Navigational Purpose	Scale	Planned PNC & ENC	Produced PNC	Produced ENC	Issued ENC
General	1:500,000	3	3	3	0
Coastal	1:150,000	17	17	17	0
Approach	1:50,000	58	58	58	34
Harbor	(1:10,000 ، 1:15,000)	8	8	8	0
Total		86	86	86	34

An independent QC/QA, encryption and distribution Cooperation Arrangement was formalized between GEOSA and IC-ENC (UK) in 2022. GEOSA has so far submitted 34 ENC cells of 1:50,000 scale to IC-ENC for validation and distribution.



4.

New Publications/Updates:

- National Tide Tables (NP-001) of 2024 were published utilizing the observed data from GEOSA's National Tide Gauge Network, and the Temporary Tide Gauge Stations that were established during the previous surveying projects.
- National Tidal Current Tables (NP-002) of 2024 were published utilizing ADCP data.
- These publications are supplied as soft and hard copies to Port Authorities Government/Private Agencies, and are available for mariners request on GEOSA's web-portal. (www.geosa.gov.sa)



5.

MSI:

The National Coordinator of the Kingdom of Saudi Arabia is the Ministry of Transport/ Saudi Port Authority (MAWANI). GEOSA updates charts through liaison with MAWANI and NAVAREA coordinator using available inputs. The Chart Correction actions and validation for GEOSA's produced ENCs and PNCs remains the full responsibility of GEOSA.

6.

C-55:

The status of the surveys of the Red Sea and Gulf of Aqaba is as follows:

A. Hydrographic Surveying:

Status of hydrographic survey of all navigable waters, including internal waters, out to the limits of the EEZ:

A = percentage which is adequately surveyed.

B = percentage which requires re-survey at larger scale or to modern standards.

C = percentage which has never been systematically surveyed.

	A	B	C
Depths < 200m	100%	0%	0%
Depths > 200m	100%	0%	0%

B. Nautical Charting:

Status of nautical charting within the limits of the EEZ.

A = percentage covered by INT series, or a paper chart series* meeting the standards in S-4.

B = percentage covered by Raster Navigational Charts (RNCs) meeting the standards in S-61.

C = percentage covered by ENC's meeting the standards in S-57.

Purpose/Scale	A PNC	B	C
Offshore passage/Small	100%	0	100%
Landfall and Coastal passage/Medium	100%	0	100%
Approaches and Ports/Large	100%	0	100%
Percentage of Group A showing depths in metres	100%		
Percentage of Group A referenced to a satellite datum	100%		

7.

Capacity Building:

Capacity Building of personnel, has been achieved by good use of available IC-ENC (UK) sponsored courses, along with knowledge transfer during contracted hydrographic surveying projects in Saudi waters. In-house training on new techniques, technologies and software is continuously being undertaken as part of GEOSA on the job training. In addition, training courses by third parties have been identified and the personnel are expected to be trained in these courses over the coming year.

8.

Oceanographic Activities:

GEOSA collects tides, meteorology and other oceanographic data from various sources. Most of these data are collected while undertaking hydrographic and oceanographic survey projects while tides and meteorology are collected real time from its national tide gauge network (NTGN). The real-time observations of tides and meteorology from this network are used for safety of navigation and sea level studies.

GEOSA has been publishing Saudi Tide Tables since 2016, and Saudi Tidal Current Tables since 2020 for safety of navigation in the Saudi Coastal Waters. The latest publication of Saudi Tide and Tidal Currents Tables (2024) are available on request. GEOSA also supports collaboration projects for collecting oceanography data with other agencies in the Kingdom.

9.

Other Activities:

GEOSA is also preparing customized products as per the requirement of its stake holders (e.g. PNC&ENC designed for NEOM and Red Sea Projects Area). The Hydrographers and Cartographers are actively participating in the national exhibitions and seminars. GEOSA is working on integrating the Hydrographic Data Management (HDM) project with the National Geospatial Center (NGC) to make the products available online as part of self-sustainability.

10.

Conclusion:

GEOSA continues to develop and gain experience in hydrographic activities by adapting state of the art technologies for hydrographic surveying and nautical publication in the Kingdom and GEOSA is committed to assure safety of navigation under IHO/IMO regulations. To date GEOSA has completed acquisition for the series of nautical charts covering the entire KSA waters in the Red Sea and Gulf of Aqaba.

In line with the “Saudi Vision 2030” Program, GEOSA is focused on participating fully with the associated objectives and goals outlined, with-in the program, in order to present world-class nautical charting and associated products to benefit economical maritime services, trade, tourism, coastal zone management and the blue water economy.