



NATIONAL REPORT OF KINGDOM OF SAUDI ARABIA

21st North Indian Ocean Hydrographic Commission Meeting

22–25 August 2022

Bali Indonesia

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1.

Introduction

The General Authority for Survey and Geospatial Information (GASGI), was established in 2020 under the Council of Ministers Resolution No. 90. The General Authority was previously known as the General Commission for Survey (GCS), which had operated since 2006.

The mission of the Hydrography Department within GASGI 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.

Since its establishment, GCS/GASGI has surveyed all Saudi Marine Areas in Red Sea and Gulf of Aqaba and produced the related folios of ENC's, PNC's and CZMC's¹ at various scales. The Hydrographic Department is well equipped with modern survey equipment and platforms to carry out hydrographic tasks in both deep waters, coastal waters and nearshore waters.

Saudi Arabia is contained on its western shores by the Red Sea and Gulf of Aqaba and on its eastern shores by the Arabian Gulf. Presently the charts being used are based on dated data thus GCS/GASGI 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 and charted whereas hydrographic survey and charting activities are in progress in the Arabian Gulf to cover the remaining Saudi Waters.

2.

Hydrographic Surveys

Modern hydrographic surveys have been undertaken from 2010 onwards and there is plan in place to complete survey of the entire Saudi Marine Areas. All surveys are being completed with the latest technology available, including bathymetric–topographic LiDAR, Multibeam Echosounder, Side Scan Sonars, Sub-bottom Profilers, precise Satellite Position Fixing Systems, 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

¹ Coastal Zone Management Charts

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 GASGI designed chart scheme consists of 86 charts to fulfil different navigation purposes namely General Navigation, coastal navigation, approaches to ports and port entry. This year 2022, GASGI completed production of these planned 86 PNC & ENC charts. Details of Produced Charts are given at table below.

Red Sea & Gulf of Aqaba PNC & ENC				
Navigational Purpose	Scale	Planned PNC & ENC	Produced PNC	Produced ENC
General	1:500,000	3	3	3
Coastal	1:150,000	17	17	17
Approach	1:50,000	58	58	58
Harbor	(1:10,000 ,1:12,500 ,1:15,000)	8 (1,1,6)	8 (1,1,6)	8 (1,1,6)
Total		86	86	86

An independent QC/QA, encryption and distribution Cooperation Arrangement was formalized between GASGI and IC-ENC (UK) this year 2022.

4.

New Publications/Updates

- National Tide Table of 2022 was published utilizing the validated data from GASGI's National Tide Gauge Network and the temporary tide stations that were established during the previous surveying projects.
- National Tidal Current Table of 2022 was published utilizing ADCP data.

These publications are supplied as soft and hard copies to Port Authorities and Government and Private Agencies, and are available for sale on GASGI's web-portal.

5.

MSI

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

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%

(GASGI 2010 – 2021 data)

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	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%		

The conversion of standalone products into the database driven system is in progress and GASGI will update the status to IHO after completing the conversion.

** Column A refers to PNCs. INT Charts in planning stage only.*

7.

Capacity Building (CB)

CB of personnel, through in-house accredited courses, has been nil for the period since the present numbers of trained staff are sufficient for both the activities in-hand and those scheduled for the next couple of years. However, in-house training on new techniques, technologies and software is continuously being undertaken as part of 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

GASGI 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 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.

GASGI 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 (2022) are available for purchase. GASGI also supports collaboration projects for collecting oceanography data with other agencies in the Kingdom.

9.

Other Activities•

GASGI is also preparing customized products as per the requirement of its stake holders and the Hydrographers and Cartographers are actively participating in the national exhibitions and seminars. GASGI is working on integrating the Hydrographic Data Management (HDM) project with the Geographical Information Centre (GIC) to make the products available online as part of self-sustainability.

10.

Conclusion

GASGI 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 GASGI is committed to assure safety of navigation under IHO/IMO regulations. To date GASGI has completed the series of nautical charts covering the entire KSA waters in the Red Sea and Gulf of Aqaba and plans and projects are underway to complete survey and charting in the Arabian Gulf.

In step with the Nation's "Vision 2030" Program, GASGI is focused on participating fully with the associated objectives and goals outlined 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.