



# **NATIONAL REPORT OF KINGDOM OF SAUDI ARABIA**

## **9<sup>th</sup> ROPME SEA AREA HYDROGRAPHIC COMMISSION MEETING**

15 – 17 November 2022

**Muscat, Oman**

Prepared by  
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**Kingdom of Saudi Arabia**

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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.

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

Since its establishment, GCS/GASGI has surveyed the marine area from south of Ad Dammam to Dawhat Salwa in the Arabian Gulf and produced the related folios of ENC's, PNC's and CZMC's 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. All the surveys are being done with the latest technology using bathymetric – topographic LiDAR, Multibeam Echosounders, Side Scan Sonars, Sub-bottom Profilers, latest 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 Arabian Gulf, the GASGI designed chart scheme consists of 27 charts to fulfil different navigation purposes namely General Navigation, coastal navigation, approaches to ports and port entry. Prior to 2022, GASGI completed production of 5 PNC & ENC charts. Details of Produced Charts are given at table below.

Arabian Gulf PNC & ENC				
Navigational Purpose	Scale	Planned PNC & ENC	Produced PNC	Produced ENC
General	1:500,000	1	0	0
Coastal	1:150,000	5	0	0
Approach	1:50,000	15	5	5
Harbor	(1:10,000 - 1:15,000)	6	0	0
<b>Total</b>		<b>27</b>	<b>5</b>	<b>5</b>

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 (NP-001) 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 (NP-002) of 2022 was published utilizing ADCP data.

These two 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. However, plans are under consideration for the GASGI to take over MSI / Chart Correction duties as and when the sale of the GASGI produced ENCs and PNCs commences.

6. **C-55**

The status of the surveys of the Arabian Gulf 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.

	<b>A</b>	<b>B</b>	<b>C</b>
Depths < 200m	12%	88%	30%
Depths > 200m	NA	NA	NA

(GASGI 2010 – 2022 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.

<b>Purpose/Scale</b>	<b>A</b>	<b>B</b>	<b>C</b>
Offshore passage/Small	0	0	0
Landfall and Coastal passage/Medium	0	0	0
Approaches and Ports/Large	18.52 %	0	18.52 %
Percentage of Group A showing depths in metres	18.52 %		
Percentage of Group A referenced to a satellite datum	18.52 %		

*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. 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 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 line with the Saudi Arabia'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.