



NATIONAL REPORT OF KINGDOM OF SAUDI ARABIA

19th North Indian Ocean Hydrographic Commission Meeting

25 – 28 March 2019

Muscat, Oman

NATIONAL REPORT OF KINGDOM OF SAUDI ARABIA

1. Introduction

General Commission for Survey (GCS) was established in the Kingdom of Saudi Arabia on 13 February 2006 through a resolution of the Saudi Cabinet. Hydrography under the GCS has been formulated for implementation of phased funding of capital assets, training of Saudi personnel and capacity building. Since its establishment, GCS has surveyed a total of about 200,000 km² in the Red Sea, the Gulf of Aqaba and the Arabian Gulf and produced ENCs, PNCs and CZMCs¹ at various scales. The Hydrographic Department is well equipped with modern survey equipment and platforms to carry out tasks both in deep and coastal waters.

Saudi Arabia is surrounded on the western side by the Red Sea, Gulf of Aqaba and on the eastern side by the Arabian Gulf with a coastline stretching over 4,673 km. The charts currently in use are based on old data thus GCS has been undertaking hydrographic surveys to produce updated charts. The Kingdom's Red Sea waters are expected to be fully surveyed and charted by 2020.

2. Hydrographic Surveys

New hydrographic surveys were undertaken from 2010 onwards and the plan is to complete surveys of entire Saudi Marine Areas by 2021. 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.

Hydrographic Survey Vessel (HSV) 'Sultan' is the 43.7m long hydrographic survey vessel with two 8.4m hydrographic survey launches onboard, all platforms equipped with full suite of equipment/systems.



The figure on page 5 depicts the Red Sea and Gulf of Aqaba surveys.

¹ Coastal Zone Management

3. New Charts & Updates

GCS has produced the number of charts given at the table below at the time of filing this report from the results of Hydrographic Survey Projects in the Red Sea and Gulf of Aqaba. (Ref. page 5)

Red Sea & Gulf of Aqaba	No. of Charts	
	ENC	PNC
Total	86	86
Completed	37	37

An independent QC/QA, encryption and distribution has been arranged to be handled by an International Authority.

4. New Publications/Updates

National tide tables of 2019 have been published utilizing validated data from GCS' National Tide Gauge Network. It is supplied as soft and hard copy to government agencies, ports and for sale through GCS' web-portal.

5. MSI

The National Coordinator of the Kingdom of Saudi Arabia is the Ministry of Transport/Saudi Port Authority (SPA). GCS updates charts through liaison with SPA and NAVAREA coordinator.

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	99.8%	0.2%	0%
Depths > 200m	100%	0%	0%

(GCS 2010 – 2018 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 ENCs meeting the standards in S-57.

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

* 43 % of planned charts schema have been created and waiting on final validation (see page. 6 for overview). GCS epoch 2010 – 2018.

7. Capacity Building (CB)

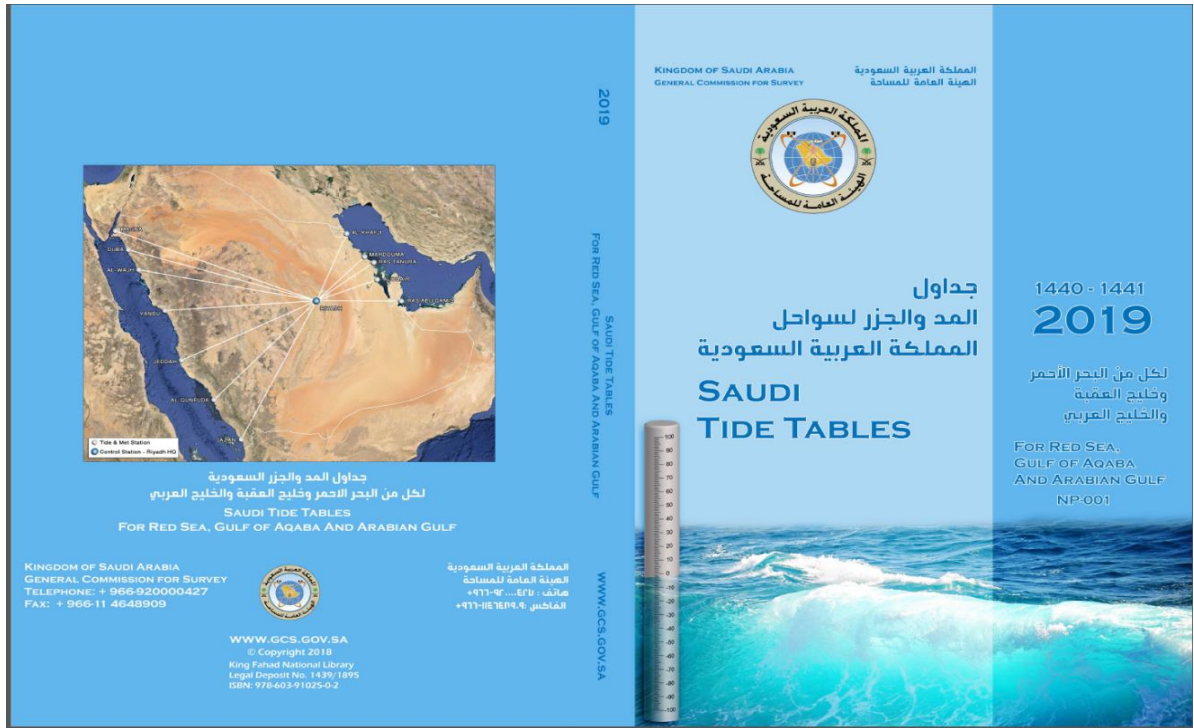
CB of personnel, through in-house accredited courses, has been nil for the period since the present numbers of trained staff are sufficient for both the activities in-hand (2017/2018) and those scheduled for up to 2021. However, in-house training on new techniques, technologies and software in continuously 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 in the coming year.

8. Oceanographic Activities

GCS collects oceanographic information like Tides, Tidal streams, Sound Velocity Profiles etc., from various sources. Most of this information is collected while undertaking hydrographic surveys, from the National Tide Gauge Network (NTGN) and the Marine Science Data Buoy projects.

GCS operates seven (7) stations in Red Sea and Gulf of Aqaba for advanced prediction of tides (for navigation) and sea level studies. GCS also supports collaboration projects for collecting oceanography data with Saudi Universities.

GCS has been publishing Tide Tables since 2016. The latest Saudi Tide Table 2019 has been published and is available for purchase.



Saudi Tide Table 2019

9. Other Activities

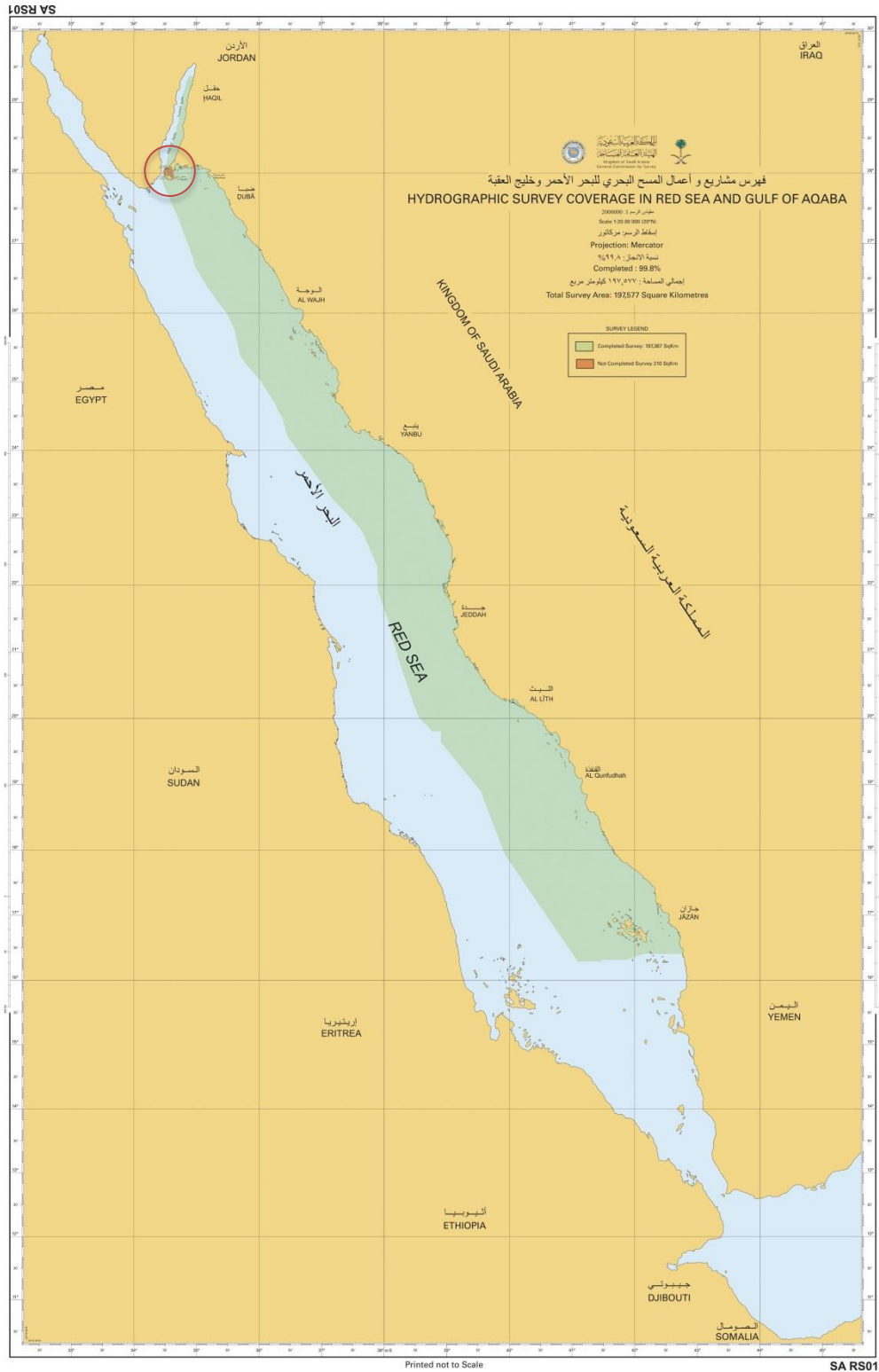
GCS is also preparing customized products as per the requirement of its stake holders. The Hydrographers and Cartographers of GCS are actively participating in the national exhibitions and seminars. GCS is working on integrating the HDM project with the Geographical Information Centre (GIC) to make the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

10. Conclusion

GCS in Kingdom of Saudi Arabia continues to develop and attain capability by adapting state of the art technologies for hydrographic surveying and nautical charting with a commitment to safety of navigation as required by IHO/IMO regulations. It is expected that the coastal series of nautical charts of the Red Sea and Gulf of Aqaba will be completed by 2020.

In step with the Nation's "Vision 2030" Program, GCS is focused on participating fully with the associated objectives and goals outlined in order to present world-class hydrographic surveys, nautical charting and associated products to benefit maritime services, trade, tourism, Coastal Zone Management and Blue Water Economy.

Overview of the Red Sea and Gulf of Aqaba Hydrographic Survey Coverage



Overview of the Red Sea and Gulf of Aqaba ENC & PNC Chart Index

