

# Structure for National Reports to Regional Hydrographic Commissions (Reference: IHO Resolution 2/1997 as amended (last amendment IHO A-2))

## *Executive summary*

### **HYDROGRAPHIC OFFICE / SERVICE:**

The Ghana National Hydrographic Office (GNHO) is the coordinating centre for hydrographic activities in the country. It comprises relevant Government professionals from the Maritime, Port, Navy, survey and mapping, academia, petroleum and allied sectors.

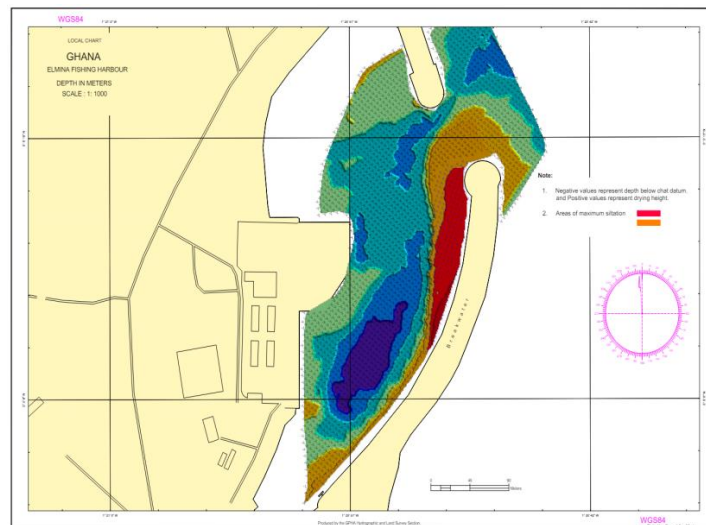
The GNHO is organized under four main segments, namely, Hydrographic Surveys, Cartography, Marine Spatial Data Infrastructure, Navigation services. A Steering Committee exist to oversee the operationalization of the National Hydrographic Office.

### **SURVEYS:**

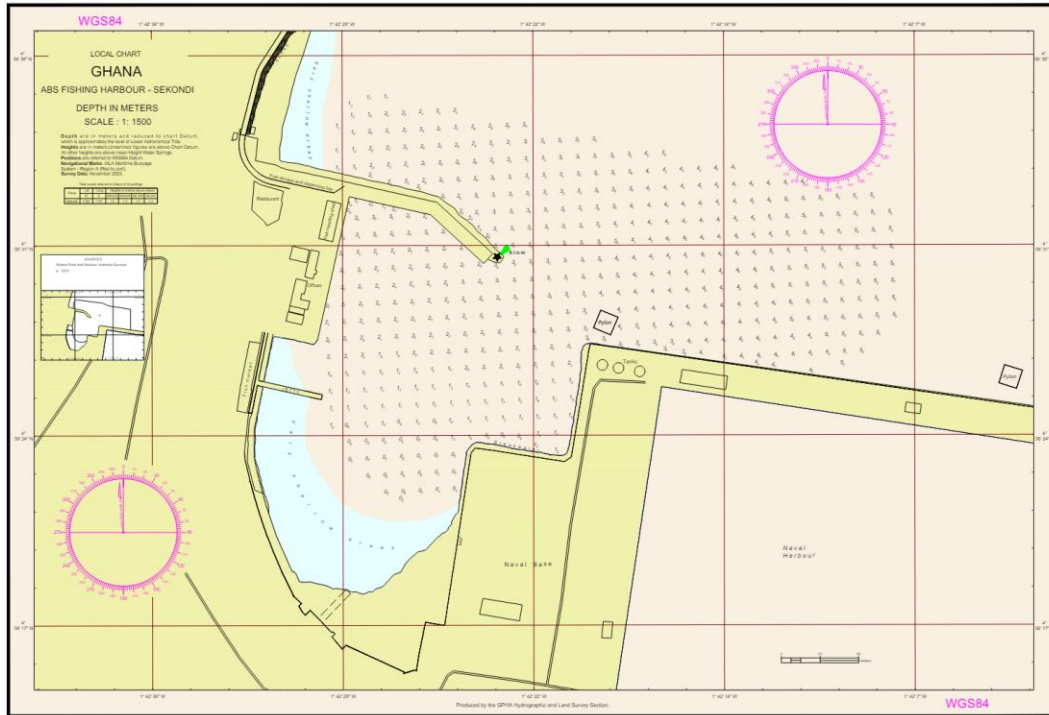
Coverage of new surveys

The two major ports (Tema and Takoradi) are regularly surveyed and charts have been produced.

Survey of the Elmina Fishing Harbour (EFH) and the Albert Bosomtwi-Sam (ABS) Fishing Harbour have just been completed.



*Local chart of the EFH*



*Local chart of the ABS fishing harbour*

Crowdsourced and satellite-derived bathymetry:

Crowdsourced Bathymetry (CSB) data are obtained from vessels and processed by the Ghana Maritime Authority. CSB data has been useful in assessing the existing data on nautical charts and for the identification of changes in bathymetry.

As part of the mandate of the GNHO, data is to be sourced from oceanographic and hydrographic activities in Ghana (oil explorations etc).

Maritime Strategic Sector Cooperation between Denmark and Ghana to enhance navigational safety on Lake Volta is underway. This phase involves the combined use of satellite-aided identification of danger areas through data analysis and Crowd-Sourced data collection with the ultimate aim of collecting positional data of a vessel on the Lake.

Challenges and achievements

Hydrographic surveying is gradually receiving some level of attention at the various sectors.

## NEW CHARTS AND UPDATES:

ENC distribution method

The International Centre for ENCs (IC-ENC) and the UKHO VAR under the AVCS brand.

- ENC GB501391 Ed 3.0 corrected to 20/03/2023
- ENC GB63102A Ed 7.0 corrected to 20/03/2023
- ENC GB303432 Ed 11.0 corrected to 20/03/2023

Challenges and achievements

A new sounder for the ports has been procured. The relevant staff have been trained.

The hydrographic survey team of GPHA received training for their acquired singlebeam (Kongsberg) and multibeam echosounders (Norbit iwsh) in Norway.



**MSI:**

Existing infrastructure for MSI dissemination-

The Vessel Traffic Management and Information System (VTMIS) is operational at the four (4) Control Centres and continues to broadcast warnings and provide surveillance services.

Permanent and Temporary Notices to Mariners/Navigational warnings are promulgated via the VTMIS and e-navigation system.

**MRCC**

The details of the Maritime Rescue Coordination Centre (MRCC) in Ghana are as follows:

**Geographical Location:** Latitude 5°33.59'N longitude 000°12.13'W

**Watchkeeping:** (9GP-88) maintains a continuous listening watch on all international maritime distress frequencies including full DSC facilities (on VHF only at the moment).

<b>Navigational Information</b>	<b>Status</b>	<b>Notes</b>
Local warnings	YES	VHF
Coastal warnings	YES	VHF
NAVAREA warnings	YES	NAVAREA COORDINATOR
Information on ports and harbours	YES	Passed to UKHO

**Contact**

Name	<b>MRCC TEMA</b>
MMSI	<b>996271131</b>
Call Sign	<b>9GP-88</b>
VHF Channel:	<b>Ch.16, DSC Ch.70</b>
Telephone	<b>+233 302 953 129</b>

Telephone	+233 302 953 134
Telephone	+233 302 953 138
Telephone	+233 302 953 140
Telephone	+233 303 211 781
Telephone (Cellphone)	+233 203 820 565
Telephone (Cellphone)	+233 545 515 844
Email	<a href="mailto:mrcc@ghanamaritime.gov.gh">mrcc@ghanamaritime.gov.gh</a>
Website	<a href="http://www.ghanamaritime.gov.gh">www.ghanamaritime.gov.gh</a>

Challenges and achievement

The VTMS is currently undergoing an upgrading process.

**CAPACITY BUILDING:**

- Mr. Samuel Mantey from the Ghana Ports and Harbours Authority was selected and sponsored by the IHO/Republic of Korea to pursue the IHO Category “B” Nautical Cartography Programme (2023) in Busan, Korea.



*Mr. Mantey (arrowed) in a group picture*

- The national geospatial authority (Lands Commission) has recently trained a hydrographer in CAT A (Plymouth) to man the newly created hydrographic section, and the Ghana Navy has also trained a number of officers in hydrographic surveying in the last few years.
- Training in hydrographic surveying and further training in cartographic knowledge in ENC production and S-100 are needed.
- The Regional Maritime University, Accra, Ghana is at the planning stage of introducing a certificate level course in Hydrography. The programme is set to undergo an evaluation process.
- The Department of Marine and Fisheries Sciences of the University of Ghana is planning to carry out an oceanographic training this year in partnership with international collaborators. This training is under an initiative called Coastal Observation Lab in a Box (COLaB). The objective of COLaB is to develop an affordable (low-cost), modular and portable package of traditional instruments and methods for water sampling and standardized physical, biological and biogeochemical observations in coastal waters. The instrument packages will therefore require a minimum of formal infrastructure (research vessel and analytical laboratory), facilitating diverse studies in settings ranging from coastal wetlands to the shelf edge. COLaB will train multi-skilled oceanographers who can go on to train others. The training is meant for universities and other academic institutions including Early Career Scientists, Marine Protected Area management teams, NGOs, port or water authorities, and any government or other agencies responsible for coastal management, fisheries, conservation (etc). The Department will also organize a training workshop on Ocean Acidification this year.

## **NEW STAFF**

As part of efforts to augment Ghana's surveying and charting capabilities, three (3) new staff members with backgrounds in Geomatic Engineering(surveying) have been recruited by the Ghana Maritime Authority to support the GNHO.

## **OCEANOGRAPHIC ACTIVITIES:**

The Department of Marine and Fisheries Sciences continued to provide oceanographic training to undergraduate and graduate students. This involves field trips to coastal areas for collection of physical, biological, and biogeochemical data. The Department organized

and hosted the 2023 edition of the annual Coastal Ocean Environment Summer School in Nigeria and Ghana (COESSING), which provided theoretical and practical training in biogeochemistry, fisheries, physical oceanography, climate modeling, and Python computing.

The Department also organized and hosted two conferences (1) the maiden edition of the West African Marine Science Symposium (WAMSS) themed “Fostering Partnerships to Advance Ocean Science in West Africa” from 18th to 20th August 2023; (2) the 2nd Ghana National Sea Turtle Conference held from the 29th-30th August 2023 under the theme "Enhancing Collaborative Efforts for Sea Turtle Conservation in Ghana". The Department also participated in the UN Ocean Decade Conference in Barcelona from 10-12 April 2024.

Tide gauge network:

The two tide gauges at the Ports of Tema and Takoradi continues to contribute data to the Global Sea Level Observing System (GLOSS) network of tidal gauges. <https://ghanaports.port-log.net/live/Display.php>

Port-Log	Map	Latest	History	System
--- ALL ACTIVE STATIONS ---				
Tides		Observed (m)	Predicted (m)	Surge (m)
Takoradi:		<b>1.33</b>	<b>1.20</b>	<b>0.13</b>
Tema:		<b>1.21</b>	<b>1.14</b>	<b>0.07</b>

**OTHER ACTIVITIES:**

International engagements

## IHO Assembly



The 3<sup>rd</sup> Session of the International Hydrographic Organization (IHO) Assembly was held from the 2<sup>nd</sup> to 5<sup>th</sup> May, 2023 in Monaco. The Ghana delegation was led by the Director General of the Ghana Maritime Authority and supported by the Chairperson and Vice Chair of the National Hydrographic and Oceanographic Committee (NHOC).

The flag of Ghana was presented to the Secretary General of the IHO.

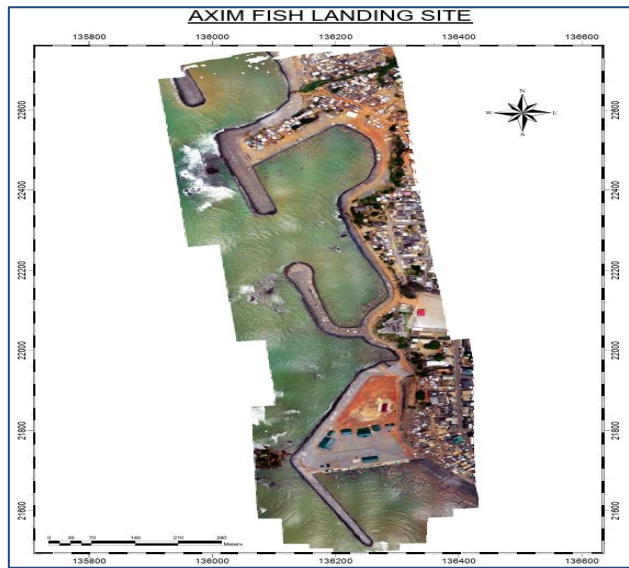
## World Hydrography Day

World Hydrography Day celebration was observed on 21<sup>st</sup> June, 2023 at the Ghana Maritime Authority. The day was used to promote the importance of Hydrography. Staff of the Authority across the various departments were in attendance.

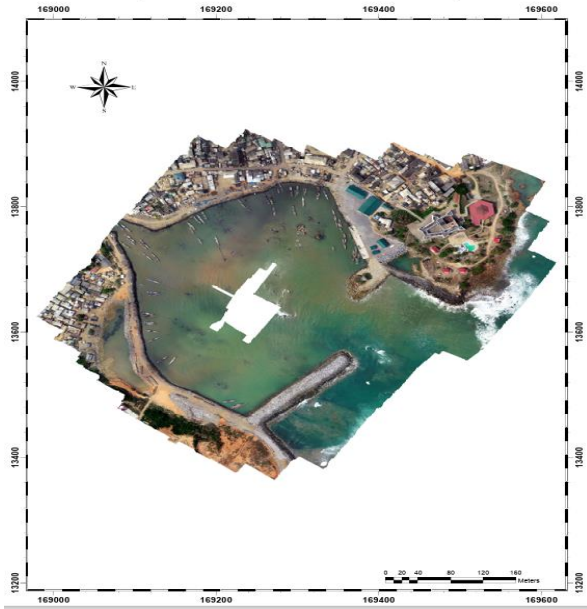
## New Fishing Ports and Landing Sites

The NHO conducted a coastal survey of the ten (10) newly developed fishing ports and landing sites. This provided vital information on the changes along the coastline of Ghana.

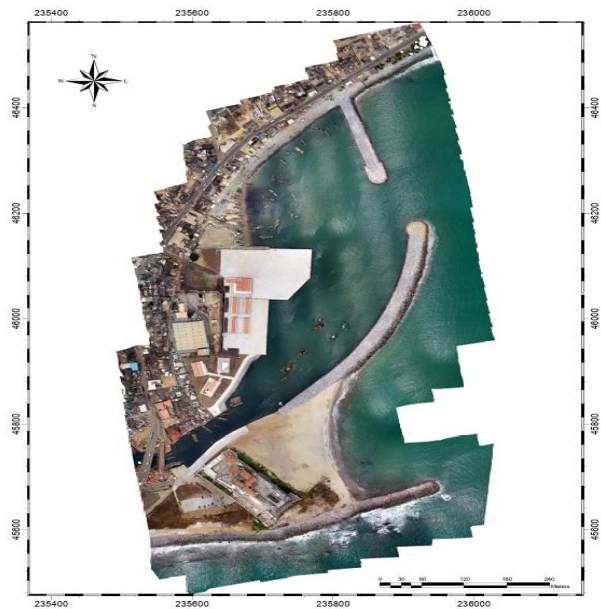




**DIXCOVE FISH LANDING SITE**



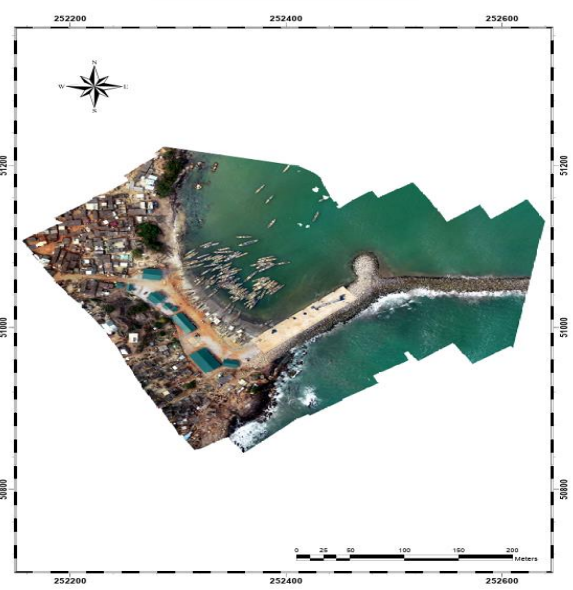
**ELMINA FISH LANDING SITE**



**GOMOA FETTEH FISH LANDING SITE**



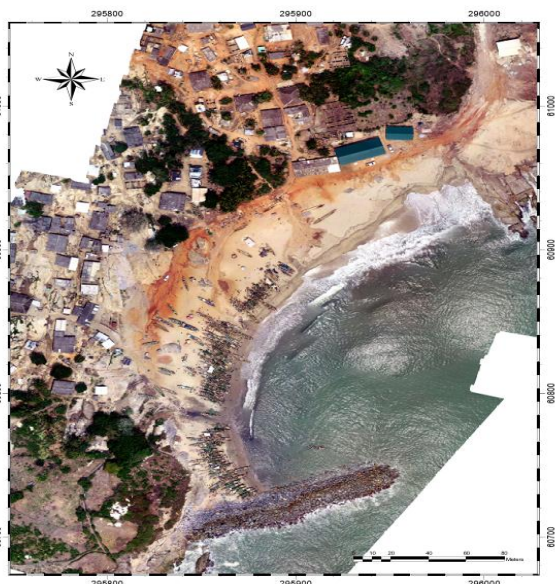
**MOREE FISH LANDING SITE**



**MUMFORD FISH LANDING SITE**



**OTUAM FISH LANDING SITE**



**SENYA BREKU FISH LANDING SITE**



**WINNEBA FISH LANDING SITE**



## RECOMMENDATIONS

1. Having become members of the IHO, a high-level visit to Ghana by the IHO would go a long way to support the local effort in bringing the essence of hydrography to bear on both stakeholders and political players (modalities could be discussed).
2. Technical cooperation with an established Hydrographic Office in the EAHC region for surveys and knowledge transfer.

## **CONCLUSION**

The EAHC is kindly invited to take note of the report.